

1R - 455

Annual GW Mon. Report

Year:

2011

**2011 ANNUAL GROUNDWATER
MONITORING REPORT
VACUUM TO JAL 14" MAINLINE #3
LEA COUNTY, NEW MEXICO
UL-A, SECTION 35, T21S, R37E
NMOCD NO.: 1R – 455
PLAINS SRS NO.: 2003-00117**

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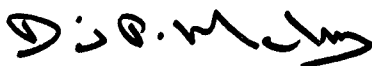
APR 2 2012

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March 29, 2012

APR 2 2012

Mr. Edward Hansen
New Mexico Oil Conservation Division
Environmental Bureau
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505

Re: Plains All American – 2011 Annual Monitoring Reports
4 Sites in Lea County, New Mexico

Dear Mr. Hansen:

Plains All American is an operator of crude oil pipelines and terminal facilities in the state of New Mexico. Plains All American actively monitors certain historical release sites exhibiting groundwater impacts, consistent with assessments and work plans developed in consultation with the New Mexico Oil Conservation Division (NMOCD). In accordance with the rules and regulations of the NMOCD, Plains All American hereby submits our Annual Monitoring reports for the following sites:

| | | |
|-------------------------------|---------|------------------------------------|
| Vacuum to Jal 14" Mainline #3 | 1R-455 | Section 35, T21S, R37E, Lea County |
| Vacuum to Jal 14" Mainline #5 | 1R-0464 | Section 2, T22S, R37E, Lea County |
| DS Hugh | 1R-0463 | Section 26, T21S, R37E, Lea County |
| Hugh Gathering | AP-0041 | Section 11, T21S, R37E, Lea County |

Earthcon prepared these documents and has vouched for their accuracy and completeness, and on behalf of Plains All American, I have personally reviewed the documents and interviewed Earthcon personnel in order to verify the accuracy and completeness of these documents. It is based upon these inquiries and reviews that Plains All American submits the enclosed Annual Monitoring Reports for the above facilities.

If you have any questions or require further information, please contact me at (575) 441-1099.

Sincerely,

Jason Henry
Remediation Coordinator
Plains All American

CC: Geoff Leking, NMOCD, Hobbs, NM

Enclosures

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1.0 INTRODUCTION AND OBJECTIVES

1.1 Objectives and Site Background

On May 8, 2003, a 14-inch steel pipeline at the EOTT Energy LLC (EOTT) Vacuum to Jal 14" Mainline # 3 Site (Vac to Jal #3, Site), SRS No. 2003-00117 released approximately three barrels of crude oil into the subsurface. The pipeline is currently owned by Plains Pipeline, L.P. (Plains). The site is located in unit letter A, NE¼ of the NE¼, Section 35, Township 21S, Range 37E, or more specifically at latitude 32°26'32.67" N and longitude 103°07'36.885" W in Lea County, New Mexico (**Figure 1**,). The release was apparently caused by internal corrosion and the pipeline was repaired and a New Mexico Oil Conservation Division (NMOCD) Release Notification Form C-141 was submitted.

This report summarizes the weekly groundwater gauging activities and the quarterly groundwater monitoring activities that took place during 2011.

1.2 Previous Remedial Responses and Environmental Investigations

The release was below the reportable quantity and was not initially reported to the NMOCD. The release was first investigated by Environmental Plus, Inc. (EPI) on May 23, 2003. Information was then reported to the NMOCD through the Release Notification Form C-141.

The irregularly-shaped, spill-impacted area was approximately 566 square feet, according to Mr. Pat McCasland with Environmental Plus, Inc. (EPI). As part of the initial remediation activities, affected soil was removed and stockpiled on site in June 2003. A total of 676 cubic yards of stockpiled soil was then transported to the Lea Station Land Farm for treatment, as reported on the NMOCD Form C-138 in April 2004 by EPI.

EarthCon Consultants, Inc. (EarthCon; formerly Premier Environmental Services, Inc.) continued to investigate the hydrocarbon impact on soil and groundwater. The results of the 2005 soil and groundwater investigations are detailed in a March 2006 *Site Investigation and Annual Report*, which was submitted to the NMOCD on behalf of Plains. During 2006, the affected area was further assessed and groundwater monitoring continued on a quarterly basis.

In May 2006, a *Soil Remediation Plan* was submitted to the NMOCD to address soil impacts at the site. Objectives of this risk-based *Soil Remediation Plan* were to isolate and control chemicals of concern (COCs) in the soil and to prevent further impact to groundwater. The *Soil Remediation Plan* was approved by the NMOCD in a correspondence dated June 1, 2006 to Plains.

In October 2006, excavation of impacted soil was completed in accordance with the *Soil Remediation Plan* to satisfy soil remediation goals and meet regulatory requirements. The excavation footprint and monitor well locations are shown in **Figure 2**.

The base of the excavation was over-excavated to an approximate depth of 5 feet below the bottom of the pipeline, and was graded with a high central area. A 20-mil high-density

polyethylene impermeable liner was placed at the base of the excavation, trimmed and then backfilled, and covered with a 6-inch-thick layer of clean imported topsoil. The slope facing away from the center of the excavation facilitates drainage of infiltrated water away from the residual hydrocarbon impacted soils underlying the liner. Details of soil remediation activities can be found in the *December 2006 Soil Closure Report*, submitted to the NMOCD.

On January 19 and 20 of 2010, an investigation consisting of installing two additional recovery wells RW-4 and RW-5 and one additional monitor well MW-8 was completed at the Site. Recovery wells RW-4 and RW-5 were installed as additional points to recover the phase separated hydrocarbons (PSH). Monitor well MW-8 was installed to better delineate the dissolved phase hydrocarbon plume.

The wells installed during the January 2010 Investigation were sampled on January 27, 2010 and analyzed for the NMOCD initial list of parameters for a new well. The analytical results for general chemistry showed iron and chloride concentrations in groundwater samples from monitor wells RW-4, RW-5, and MW-8, exceed their respective New Mexico Water Quality Control Commissions (NMWQCC) Human Health Standards for groundwater referred to in this report as New Mexico water quality standards (NMWQS). Aluminum concentrations exceeded NMWQS in the groundwater samples from monitor wells RW-4 and MW-8. For SVOC, ten parameters were detected above the laboratory MDLs from which only phenol was detected above the NMWQS in the groundwater sample collected from recovery well RW-5. Analysis for PAH compounds showed seven parameters detected above the MDLs from which only 1-methylnaphthalene was reported above the NMWQS in the groundwater sample collected from recovery well RW-4. Analysis for volatile compounds detected 15 compounds above the MDLs. Benzene, toluene and m,p-xylene concentrations in recovery well RW-4 and benzene in recovery well RW-5 exceeded their respective NMWQS. Due to matrix interference, nine VOC compounds were reported non-detect that have MDLs above their respective NMWQS.

1.3 Regulatory Framework

Based on standards outlined in New Mexico Administrative Code (NMAC), Title 20, Chapter 6, Part 2, the remediation criteria for groundwater at the site are as follows:

| Constituent | Limit (mg/L) |
|-----------------------------|--------------|
| Benzene | 0.01 |
| Ethylbenzene | 0.75 |
| Total Xylenes | 0.62 |
| PAHs ^{1,2} | 0.03 |
| Benzo-a-pyrene ² | 0.0007 |

1 – PAHs: Total naphthalenes plus monomethylnaphthalenes

2 – PAH remediation standards will be used as target concentrations only upon PSH removal.

In addition to using the above values as the target cleanup goals for chemicals of concern (COC) concentrations in groundwater at the site, PSH removal is also an integral part of on-going remediation activities.

1.4 Limitations

EarthCon has examined and relied upon the file information provided by Plains and Environmental Plus, Inc. (EPI). EarthCon has not conducted an independent examination of the information contained in the Plains files; furthermore, we assume the genuineness of the documents reviewed and that the information provided in these documents to be true and accurate. EarthCon has prepared this report using the level of care and professionalism in the industry for similar projects under similar conditions. EarthCon will not be responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed at the time this report was prepared. EarthCon believes the conclusions stated herein are factual, but no guarantee is made or implied.

2.0 GROUNDWATER ASSESSMENT AND RESULTS

2.1 Groundwater Sample Methodology

Activities conducted at the Vac to Jal Mainline #3 site in 2011 primarily consisted of gauging wells for groundwater levels, determining the presence or absence of PSH, recovering PSH using absorbent socks, hand bailing and submersible pumps in monitor wells. Groundwater sampling of wells not exhibiting PSH was completed to evaluate the extent of the dissolved-phase hydrocarbon plume.

Measurements of the depth to groundwater and product thickness in wells with hydrocarbon sheen or PSH were completed during the weekly PSH recovery and groundwater sampling events. Eight groundwater monitor wells (MW-1 through MW-8) and five recovery wells (RW-1 through RW-5) were gauged using an oil/water interface probe. The well locations are shown on **Figure 2**.

Groundwater level elevations and the presence of PSH, if any, were noted for each well. In cases where no measurable PSH was detected by the interface probe, the down-hole sensor of the probe was examined for the presence of PSH upon removal from the well. Five recovery wells RW-1, RW-2, RW-3, RW-4 and RW-5 and one monitor well MW-1 contained a measurable PSH thickness or hydrocarbon sheen during 2011 and were sampled annually. Starting in the second quarter of 2008, all recovery wells and monitor well(s) with PSH or sheen were required to be sampled annually and groundwater samples analyzed for BTEX constituents. Groundwater samples were collected from these wells containing PSH for BTEX in second quarter of 2011. Additional PAH groundwater samples were collected during the fourth quarter 2011 from MW-2, MW-3, and MW-8 per the request from the NMOCd on November 29, 2011.

Groundwater monitor wells not exhibiting PSH or hydrocarbon sheen were gauged monthly and sampled quarterly. After collecting and recording groundwater level and PSH thickness measurements, each well was purged with a clean electric submersible pump, and then groundwater samples were collected using a new dedicated disposable bailer.

Groundwater samples were poured directly from the disposable bailers into the appropriate laboratory-supplied sample containers. The sample containers were then packaged to prevent breakage, placed on ice in a cooler, and shipped to ALS Environmental of Houston, Texas for analysis. The groundwater samples were analyzed for BTEX by EPA Method SW 846-8021B and PAHs by EPA Method SW 8270.

2.2 Groundwater Gauging

Table 1 summarizes groundwater gauging (elevation and PSH thickness) measurements taken before each quarterly groundwater sampling event in 2011. In addition, weekly (or occasionally every other week) groundwater elevation and PSH thickness measurements were recorded

prior to and after PSH recovery and monthly measurements were taken from wells without PSH. Groundwater elevations and PSH thickness measurements were taken in one monitor well (MW-1) and five recovery wells (RW-1 through RW-5) during PSH recovery efforts. Groundwater elevation measurements were recorded monthly for seven monitor wells (MW-2 through MW-8) without PSH or hydrocarbon sheen. Complete historical groundwater elevation and PSH thickness measurements since September 14, 2005 are presented in **Table 2**.

2.3 Groundwater Gradient and Flow Direction

Using the groundwater gauging data as described in **Section 2.2** and summarized in **Tables 1** and **2**, groundwater gradient maps were prepared and are included as **Figures 3A** through **3D**. The calculated groundwater gradient and estimated groundwater flow direction are based on the gauging data obtained on February 23, June 2, August 30, and November 29, 2011 (see **Table 1**). The hydraulic gradient in 2011 ranged from 0.0043 to 0.0048 feet/foot (ft/ft), based on groundwater elevations measured between monitor wells MW-4 and MW-6. Groundwater generally flows to the east.

2.4 Groundwater Analytical Results

Groundwater at the site was sampled on February 23, June 2, August 30, and November 29 during 2011 from monitor wells MW-2 through MW-8 and analyzed for BTEX constituents using the United States Environmental Protection Agency (USEPA) Method 8021B (see **Figures 4A** through **4B**). Groundwater samples were collected in the second quarter from monitor well MW-1 and recovery wells RW-1 through RW-5 due to the presence of PSH. Analytical results reported for the groundwater samples collected at four wells (MW-4 through MW-7) displayed BTEX constituent concentrations below laboratory MDLs for all four quarters. Monitoring wells MW-2 and MW-3 exhibited concentrations of constituents above laboratory MDLs, but below NMOCD remediation criteria for all four quarters of groundwater monitoring. MW-1, MW-3, and recovery wells RW-1 through RW-5 exceeded the NMOCD criteria for benzene during the second quarter. Detections also exceeded the NMOCD for total xylenes in the second quarter groundwater sampling at RW-1 and RW-4.

The 2011 analytical results are presented in **Table 3**, and historical analytical results are presented in **Table 4**. **Table 2.1** below summarizes the COC concentrations in which NMOCD Remediation Criteria exceedances were observed in 2011. COC concentrations reported in exceedance of NMOCD standards are marked in **bold**.

| Table 2.1 2011 COC NMOCD Exceedances | | | | | | |
|--------------------------------------|-------------|------------|----------------------------|----------------|---------------------|----------------------|
| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| MW-1 | 06/02/11 | 1106109-01 | 2.7 | 0.030 | 0.64 | 0.56 |
| | | | | | | |
| MW-3 | 06/02/11 | 1106118-02 | 0.0130 | <0.001 | 0.015 | 0.015 |
| | | | | | | |
| RW-1 | 06/02/11 | 1106109-02 | 0.150 | 0.011 | 0.069 | 0.100 |
| | | | | | | |
| RW-3 | 06/02/11 | 1106109-04 | 1.0 | 0.01 | 0.20 | 0.280 |
| | | | | | | |
| RW-4 | 06/02/11 | 1106109-05 | 0.17 | 0.22 | 0.27 | 0.630 |
| | | | | | | |
| RW-5 | 06/02/11 | 1106109-06 | 0.0280 | 0.0066 | 0.0390 | 0.044 |
| | | | | | | |

In 2008, 2009, 2010, and 2011 NMOCD required Plains to analyze for BTEX and PAH constituents in the dissolved phase groundwater in wells with hydrocarbon sheen. To meet this requirement, groundwater samples were also collected from monitor well MW-1, and recovery wells RW-1, RW-2, RW-3, RW-4 and RW-5, during the second quarter of 2011 and were analyzed for BTEX constituents (see **Tables 3 and 4** for the analytical data). During the fourth quarter of 2011 PAH analysis was collected from wells MW-2, MW-3 and MW-8 (see **Table 5**).

During this sampling event, fluids (PSH and dissolved phase hydrocarbons) from the wells MW-1, RW-1, RW-2, RW-3, RW-4 and RW-5 were recovered prior to purging the well to collect the groundwater samples. The analytical results indicated the presence of benzene concentrations above the NMOCD remediation criteria of 0.01 mg/L in the following wells monitor well MW-1, and recovery wells RW-1, RW-3, RW-4 and RW-5). Toluene and ethylbenzene concentrations were not detected above the NMOCD remediation criteria in groundwater samples from recovery wells RW-1 through RW-5 and monitoring well MW-1 and total xylenes concentrations were detected above the NMOCD remediation criteria in groundwater samples from wells RW-1 and RW-4. A copy of the laboratory analytical data package is included in **Appendix A**.

2.5 Groundwater Waste Disposal

Purge water from well sampling at wells MW-1 through MW-8 and recovery wells RW-1 through RW-5 is placed in the 1100-gallon above ground storage tank. These liquids are vacuumed from the tank and transported via vacuum truck for offsite disposal by Key Energy Services of Hobbs, New Mexico.

3.0 PSH RECOVERY

3.1 PSH Recovery Methodology

In addition to collecting groundwater samples, EarthCon performed weekly visits to the site to gauge and recover PSH from the six wells with PSH/sheen (wells MW-1, RW-1, RW-2, RW-3, RW-4 and RW-5). Measurements to PSH and water levels were recorded during each site visit (see **Table 2**). PSH recovery activities were completed on a weekly basis using submersible pumps, hand bailer and/or absorbent socks. Routine PSH recovery activities typically consisted of the removal of less than 1 gallon of PSH and 10 to 20 gallons of groundwater with possible dissolved phase hydrocarbons from each well.

3.2 2011 PSH Recovery

During 2011, measurable PSH was observed in monitor well MW-1 and recovery wells RW-1 through RW-5. In general, decreasing trends in the PSH thickness data collected for these wells have been observed. Monthly recovery data for PSH and dissolved phase groundwater are presented in **Table 6**.

A general decreasing trend in the PSH thickness in monitor well MW-1 was observed starting early 2008. A thin PSH thickness was observed through most of 2011, with the maximum thickness of PSH only reaching 0.02 ft.

The PSH thickness observed in recovery well RW-1 indicated an increase during the third and fourth quarters of 2008, however, a general decreasing trend was observed beginning 2009 and continued through 2011. In fact, only one gauging event recorded a measurable PSH thickness at this well, 0.01 ft on July 13, 2011.

PSH thicknesses in recovery well RW-2 increased from a hydrocarbon sheen to a measurable thickness which was first observed in October 2008. A measurable PSH thickness was observed in recovery well RW-2 until June 2009 with a maximum thickness of 1.37 ft observed during the month of April 2009. A hydrocarbon sheen has been present since June of 2011, with only small measurable thicknesses recorded (maximum 0.02 ft) in the beginning of the year.

The PSH thickness in recovery well RW-3 has been also been reduced to a small measurable thickness, a sheen, or no detection at all in 2011. The maximum thickness recorded was 0.55 ft on August 3, 2011.

Recovery well RW-4, drilled in January 2010, contained a maximum PSH thickness of 0.10 ft on August 17, and an average of approximately 0.02 ft. The PSH thickness in recovery well RW-5 (also drilled in January 2010) ranged from non-measurable to 0.09 ft in 2011. The average PSH thickness observed was 0.01 ft.

3.2 PSH Waste Generated

Purged PSH and affected groundwater from monitoring well MW-1 and recovery wells RW-1 through RW-5 is placed in the 1,100 gallon above ground storage tank. These liquids are vacuumed from the tank and transported offsite for disposal by Key Energy Services of Hobbs, New Mexico. Key Energy Services removes the fluids and transports fluids, via vacuum truck for disposal as previously described in **Section 2.5**.

4.0 MONITORED NATURAL ATTENUATION

4.1 Regulatory Framework for Monitored Natural Attenuation

Monitored Natural Attenuation (MNA) is defined by the New Mexico Environmental Department in 20.5.13 NMAC as "a methodology for remediation that relies upon a variety of naturally occurring chemical, physical and biological processes to achieve target concentrations in a manner that is equally as protective of public health, safety and welfare, and the environment as other methods and that is accompanied by a program of monitoring to document the progress and results of the above mentioned processes."

As part of the MNA process several lines of evidence need to be evaluated, the general lines of evidence are listed below:

- **Primary Lines of Evidence (PLOE).** Relies on use of historical groundwater data that demonstrate a clear trend of stable or decreasing chemical of concern (COC) concentrations over time and with distance away from the source at appropriate monitoring or sampling points.
- **Secondary Lines of Evidence (SLOE).** Uses geochemical indicators to document certain geochemical signatures or "footprints" in the groundwater that demonstrate (indirectly) the type of natural attenuation process(es) occurring at the affected property and the destruction of COCs; or uses distance-based/time-based/biodegradation rate calculations to demonstrate attenuation.
- **Other Lines of Evidence (OLOE).** Most often consists of predictive modeling studies and other lab/field studies that demonstrate an understanding of the natural attenuation process(es) occurring at the affected property and their effectiveness in controlling PCLE zone migration and decreasing COC concentrations.

4.2 Groundwater Plume Stability and Monitored Natural Attenuation

Vac to Jal #3 site is currently undergoing Ricker Plume Stability Analysis. While samples are collected for monitored natural attenuation, insufficient data exists at this time to perform and reliable evaluation.

4.2.1 Ricker Plume Stability Analysis

The dissolved phase plume was evaluated by analyzing groundwater samples collected quarterly from seven monitor wells which did not contain PSH. Throughout 2011, benzene was detected above the NMOCD remediation criteria in monitor wells MW-1 and MW-3 and recovery wells RW-1, RW-3, RW-4, and RW-5. Benzene concentrations in groundwater samples

collected from monitor well MW-3 appear to be generally decreasing from the maximum concentration observed in 2008 which is located cross gradient of the excavated soil area (**Figure 2**). The groundwater samples collected from the remaining six wells on site reported benzene, toluene, ethylbenzene and total xylenes (BTEX) constituent concentrations either below the NMOCD remediation criteria or below the laboratory MDLs.

The benzene concentrations reported in the groundwater samples collected from the monitor wells down-gradient of the plume, MW-2 and MW-3, from 2006 to 2011 also indicate a general decrease in the benzene concentrations.

Understanding plume stability is an important step in the remedial planning process for a site. For instance, an increasing plume could potentially migrate to human or environmental receptors, whereas a stable or decreasing plume may not pose an imminent threat to human health and the environment. An introduction to Ricker Plume Stability Analysis and the basis for the plume evaluation at the site was presented in the 2009 Annual report.

This analysis was conducted in order to understand the overall stability of the benzene plume during 2008, 2009, 2010, and 2011, by characterizing plume area, average concentration, mass, and center of mass.

The Picker Plume Stability Analysis completed for the site to date include the development of benzene concentration isopleths maps for the years 2008, 2009, 2010, and 2011. In the development of benzene concentration isopleths maps, an average of the benzene concentrations reported in the four quarterly groundwater sampling events was used for all the wells with no PSH, specifically monitor wells MW-2 through MW-8. Since the wells with PSH were sampled only during the second quarter groundwater sampling events during 2008, 2009, 2010 and 2011, the benzene concentrations reported during this sampling event were used in plume evaluation. The plume characteristics such as plume area, plume average concentration, plume mass, and plume centers of mass were calculated for each of the three benzene plumes using numerical methods and engineering principles.

The benzene isopleths maps for 2008, 2009, 2010, and 2011 are presented in **Figures 5, 6, 7, and 8** respectively. Plume mass, plume area and average benzene concentration data for 2008 through 2011 are graphically presented and summarized in **Figure 9**. The plume centers of mass for the three years are presented in **Figure 10**. A slight shift in the plume center of mass in the down gradient groundwater flow direction was observed from 2008 to 2011.

The current area affected by the benzene plume in 2011 based on quarterly groundwater sampling events is approximately 0.30 acres, which is approximately 35 percent less than that of 2008, approximately 28 percent less than 2009, and 12 percent less than 2010. The total mass of the benzene plume in 2011 is approximately 183 lbs less than the total mass computed in 2008 which is about a 68 percent reduction during the three year period. **Table 4.1** below provides a summary of plume characteristics. The center of mass of the plume presented in **Figure 10** displays a shift to the west towards MW-1.

**Table 4.1 Summary of Plume
Stability Characteristics**

| Date | Area (Acres) | Average Conc. (µg/l) | Mass (lbs) |
|------|-----------------|----------------------------|---------------|
| 2008 | 0.46 | 494 | 269 |
| 2009 | 0.42 | 374 | 185 |
| 2010 | 0.34 | 473 | 187 |
| 2011 | 0.3 | 241 | 86 |

The analytical data collected for the site (see **Table 3**) used for the Ricker Plume Stability Analysis indicate that the benzene plume emanating from the site has a decreasing trend in size and mass while the average concentration of benzene appears to be decreasing as well. The benzene concentrations reported during the quarterly groundwater sampling events from the down-gradient well, monitor well MW-2 and cross-gradient well MW-3 were also evaluated individually. Benzene concentrations reported in the groundwater samples collected from monitor well MW-2 were below the NMOCD remediation criteria during the fourth quarter of 2009 and further decreased to below the laboratory MDLs in the first quarter 2010 and remained below the laboratory MDLs throughout 2011. Reported benzene concentrations in the groundwater samples collected from monitor well MW-3 were above the NMOCD remediation criteria only during the second quarter of 2011. The plume characteristic, specifically the plume area and mass calculated, display a plume that has statistically decreasing trend.

PSH thicknesses also appear to be decreasing, as a likely result of PSH recovery activities. This trend correlates well with the decrease in the plume area and mass characteristics computed in 2011 when compared to 2008 indicating that there is an overall decreasing trend of contaminants in the groundwater at the site.

5.0 CONCLUSIONS

5.1 Findings

During 2011, groundwater monitoring was conducted on a quarterly basis and PSH recovery continued weekly through manual bailing, use of electric pumps, and with absorbent socks. This report documents the results of the quarterly groundwater sampling events on-going at the site, and the volume of PSH and dissolved phase hydrocarbon recovered in 2011. A summary of the results of these activities is as follows:

- Measurable PSH and/or hydrocarbon sheens were observed in recovery wells RW-1 through RW-5, and monitor well MW-1 during 2011. During 2011, measurable PSH thicknesses in these wells have been observed to be decreasing. The reduction in PSH thickness and the decrease in dissolved phase hydrocarbon concentrations is thought to be attributable to the removal of affected soils in the surface and shallow subsurface soil, placement of a liner in October 2006, and continued weekly removal of dissolved phase hydrocarbons with entrained PSH via manual bailing and natural attenuation.
- Approximately 1,000 gallons of dissolved phase hydrocarbons with entrained PSH were recovered from the six wells with PSH and/or hydrocarbon sheen on site.
- Benzene concentrations were reported to be detected above the NMOCD remediation criteria of 0.01 mg/L in only one monitoring well sample (MW-3) collected from wells without PSH (MW-2 through MW-8). This sample was collected during the second quarter of 2011 with a reported benzene concentration of 0.0130 mg/L. BTEX constituent concentrations reported in groundwater samples collected from the remaining monitor wells were all below the NMOCD remediation criteria.
- As anticipated, benzene concentrations reported in the groundwater samples collected from wells with PSH or hydrocarbons sheen, namely monitor well MW-1 and recovery wells RW-1 through RW-5, during the second quarter of 2011 were above the NMOCD remediation criteria with the exception of RW-2 which had detections of benzene below the NMOCD remediation criteria.
- Plume stability analysis was conducted to establish baseline benzene plume characteristics using the 2008, 2009, 2010, and 2011 benzene concentration data. Evaluation of the plume characteristics computed for 2011 indicated a decreasing plume area, and plume mass and the average plume benzene concentration. Additional sampling events will be necessary to establish the statistical significance of these trends.

5.2 Recommendations

Based on PSH recovery and groundwater sampling completed during 2011 (and previously) at the site, EarthCon recommends the following:

- Continue weekly PSH recovery operations through removal of total fluids using manual bailers, electric pumps, and absorbent socks in wells with PSH as necessary, with monthly gauging and quarterly groundwater sampling to monitor hydrocarbons in groundwater.
- Based on a lack of detections of BTEX constituent concentrations in the groundwater samples collected from monitor wells MW-4, MW-5, MW-6 and MW-7 in the last 4 years, annual sampling of these wells is proposed. Quarterly sampling of wells MW-2, MW-3 and MW-8 will be continued and wells with PSH or sheen (MW-1, RW-1, RW-2, RW-3, RW-4, and RW-5) will be sampled annually.
- Plume stability analysis and data evaluation will be completed for the quarterly data obtained during the 2012 sampling events. A statistical trend analysis will also be performed using Mann-Kendall Test and regression analysis on the calculated plume characteristics to assess statistical significance of the benzene plume stability trends observed. A summary of the updated plume stability study will be presented in the 2012 Annual Report.

FIGURES

- Figure 1** **Site Location Map**
- Figure 2** **Site Map**
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- Figure 3D** **4th Quarter 2011 - Groundwater Gradient Map, November 29, 2011**
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1/2 1/4 0 1/4 1/2
Distance in Miles

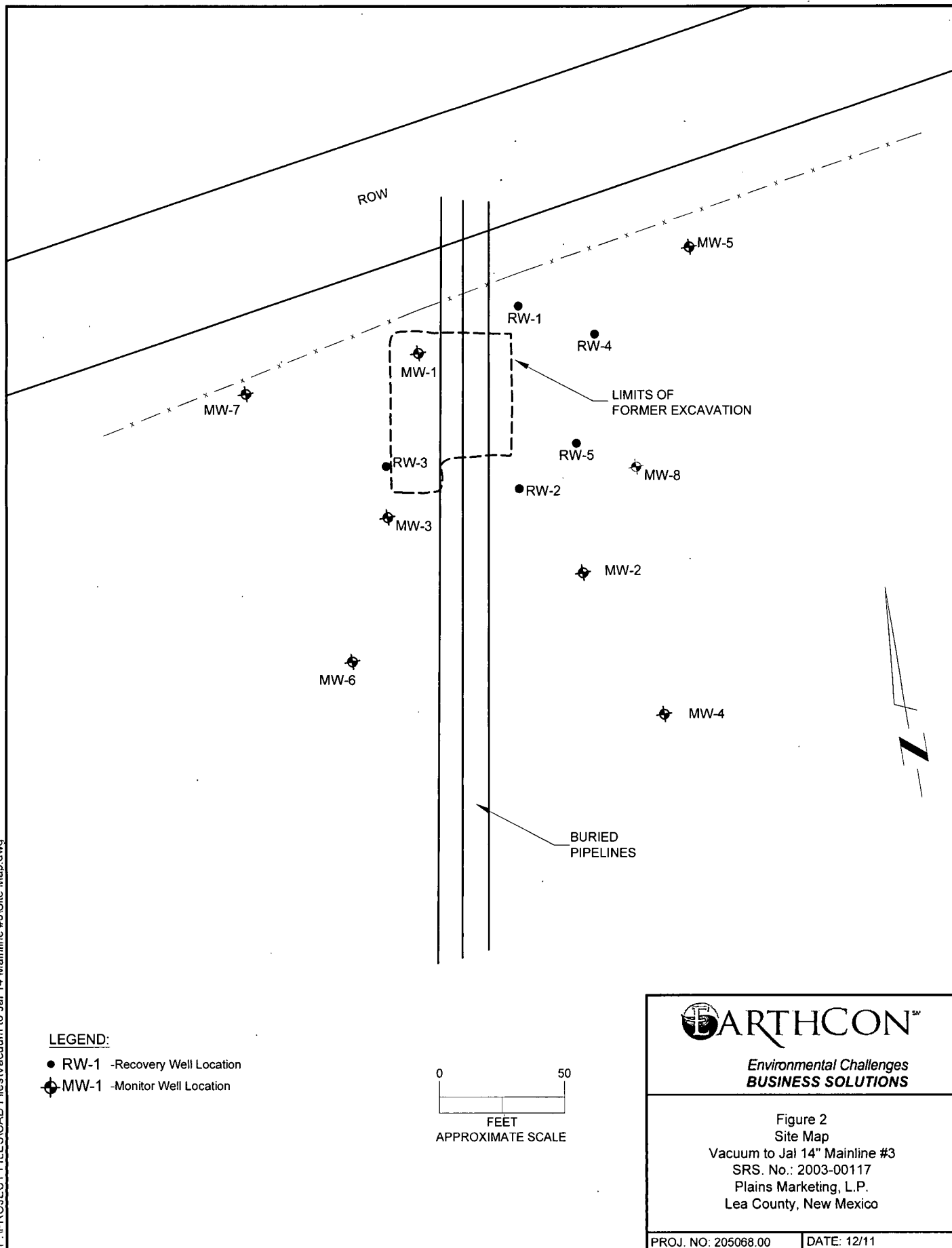
Eunice Quadrangle
32°26'32.75"N Latitude & 103°07'37.81"W Longitude

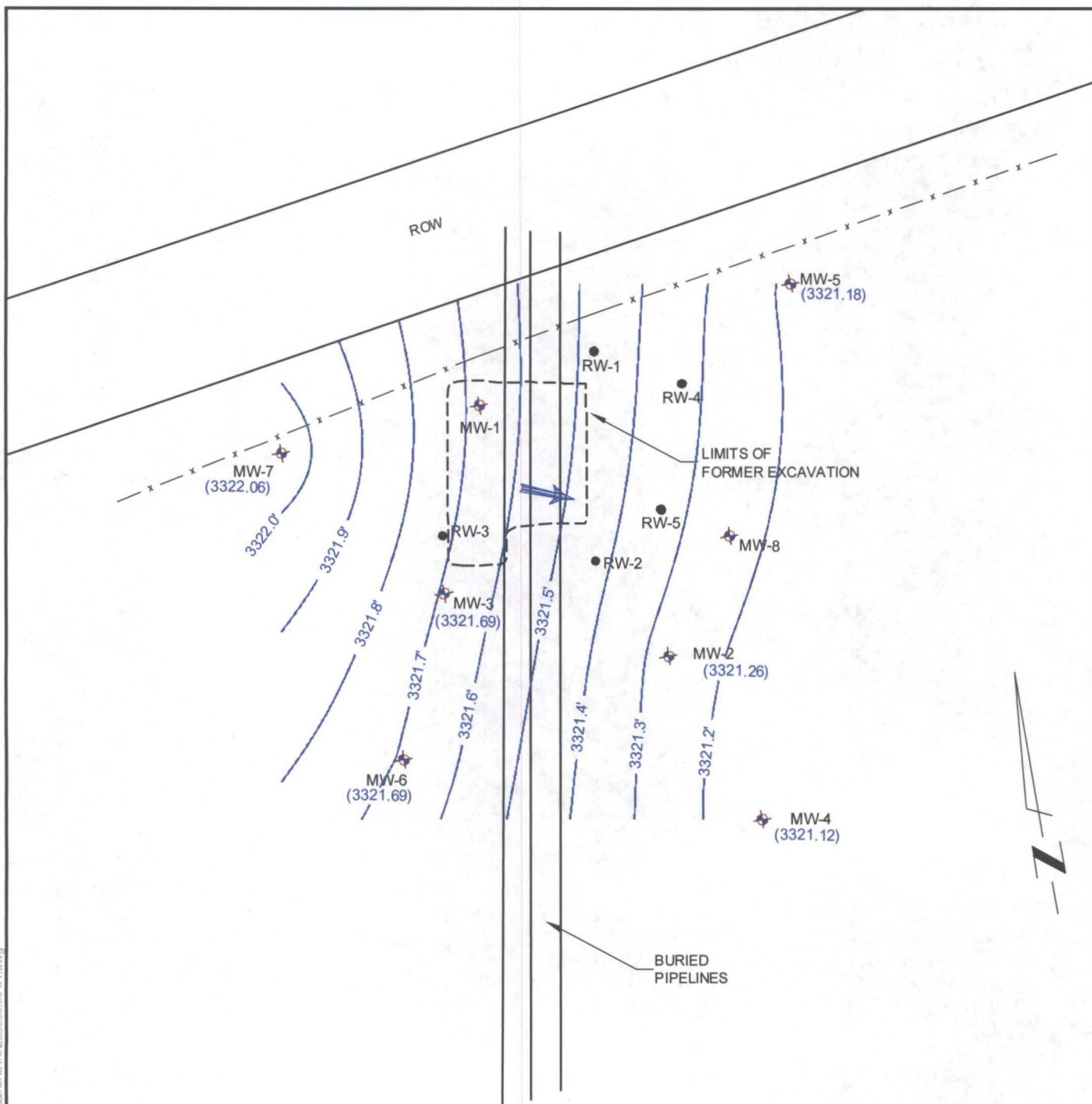
EARTHCONSM
Environmental Challenges
BUSINESS SOLUTIONS

Figure 1
Site Location Map
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 1/12

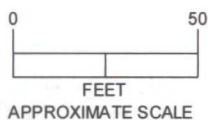




LEGEND:

- RW-1 - Recovery Well Location
- ⊕ MW-1 - Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



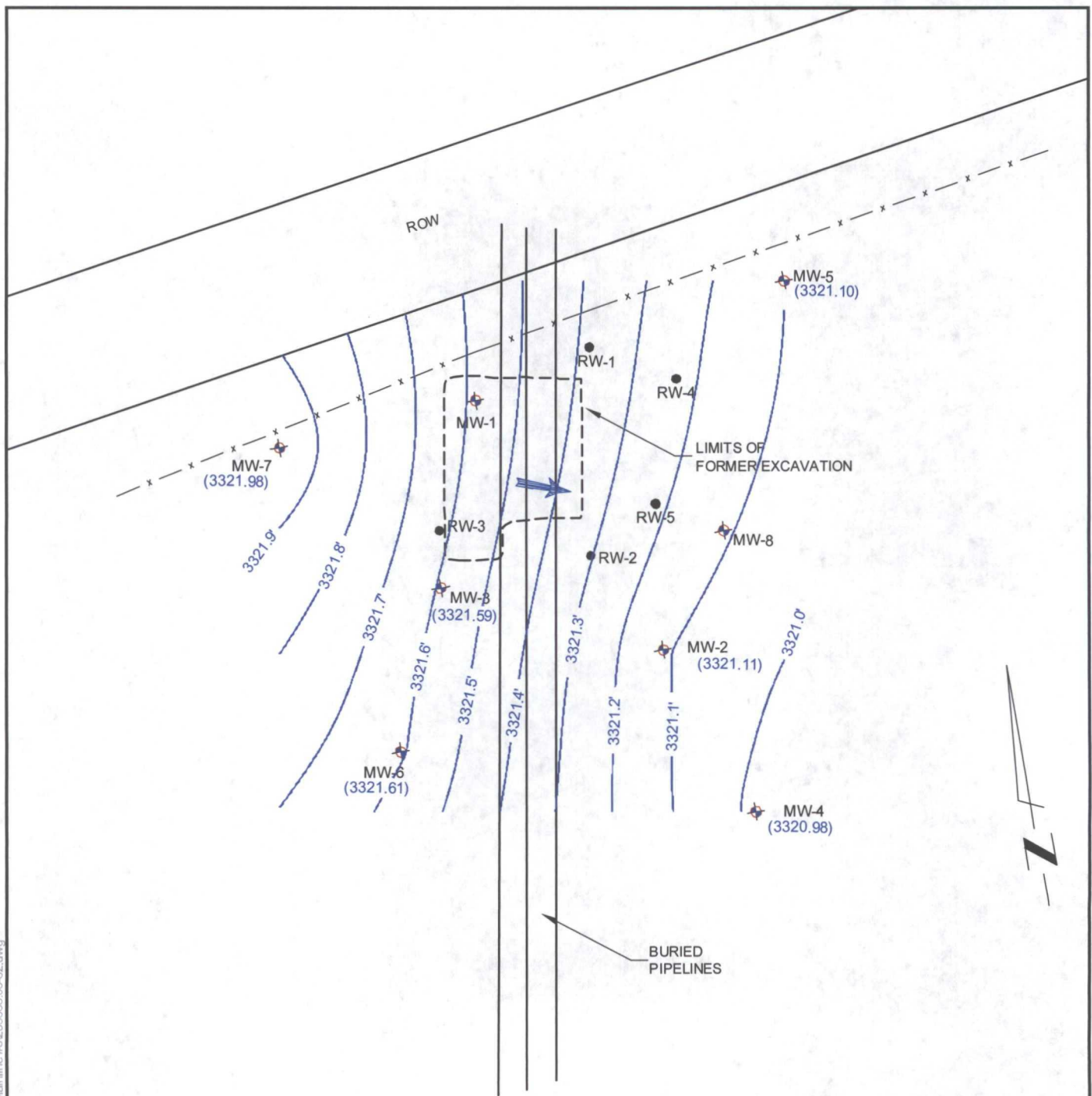
EARTHCONSM
Environmental Challenges
BUSINESS SOLUTIONS

Figure 3A
1st Quarter 2011 - Groundwater Gradient Map
February 23, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 12/11

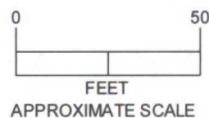
P:\PROJECT FILES\CAD Files\Vacuum to Jal 14 Mainline #3\205068.00-82.dwg



LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



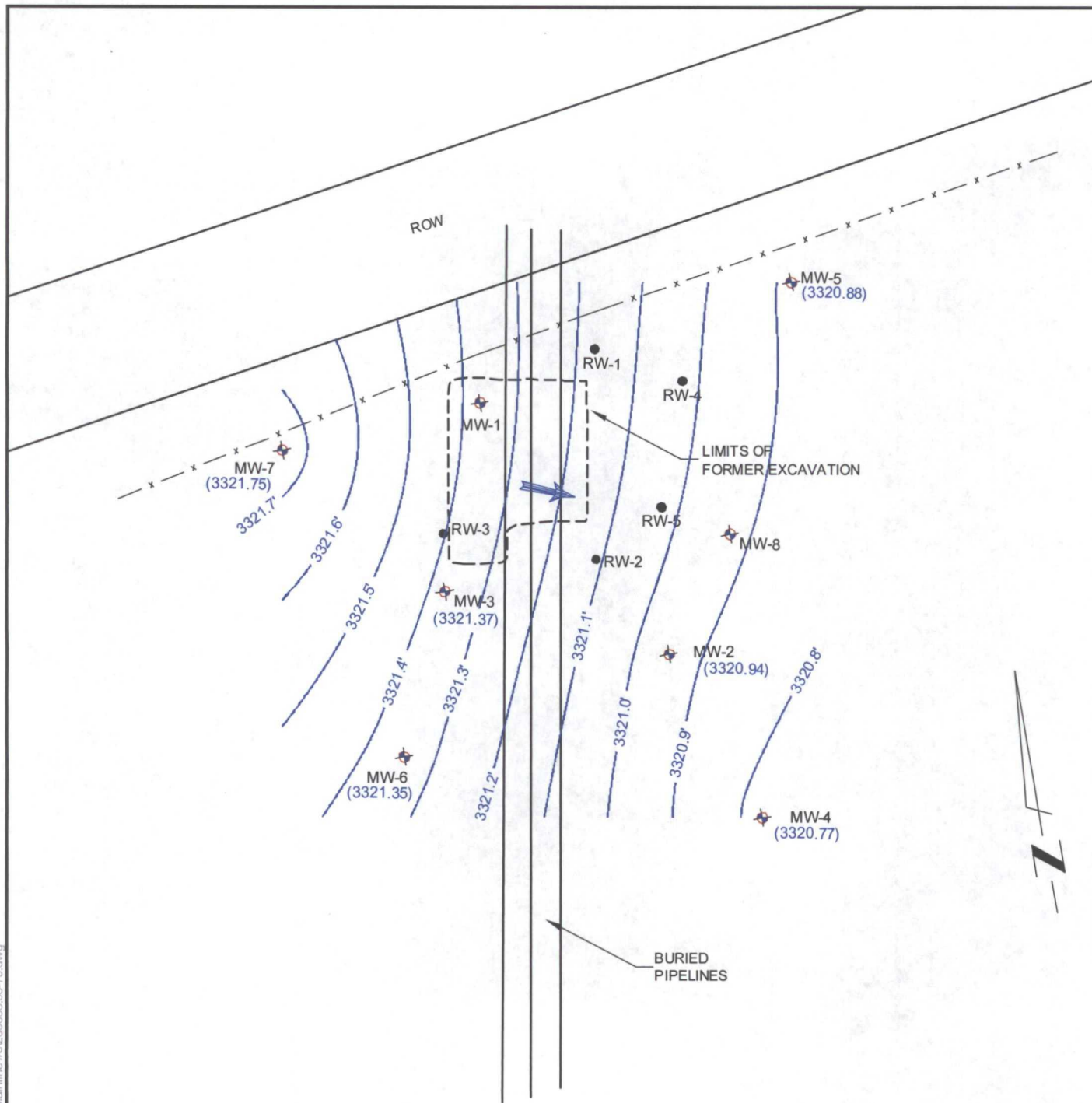
EARTHCON^{SV}

Environmental Challenges
BUSINESS SOLUTIONS

Figure 3B
2nd Quarter 2011 - Groundwater Gradient Map
June 2, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

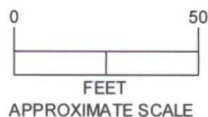
DATE: 12/11



LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.

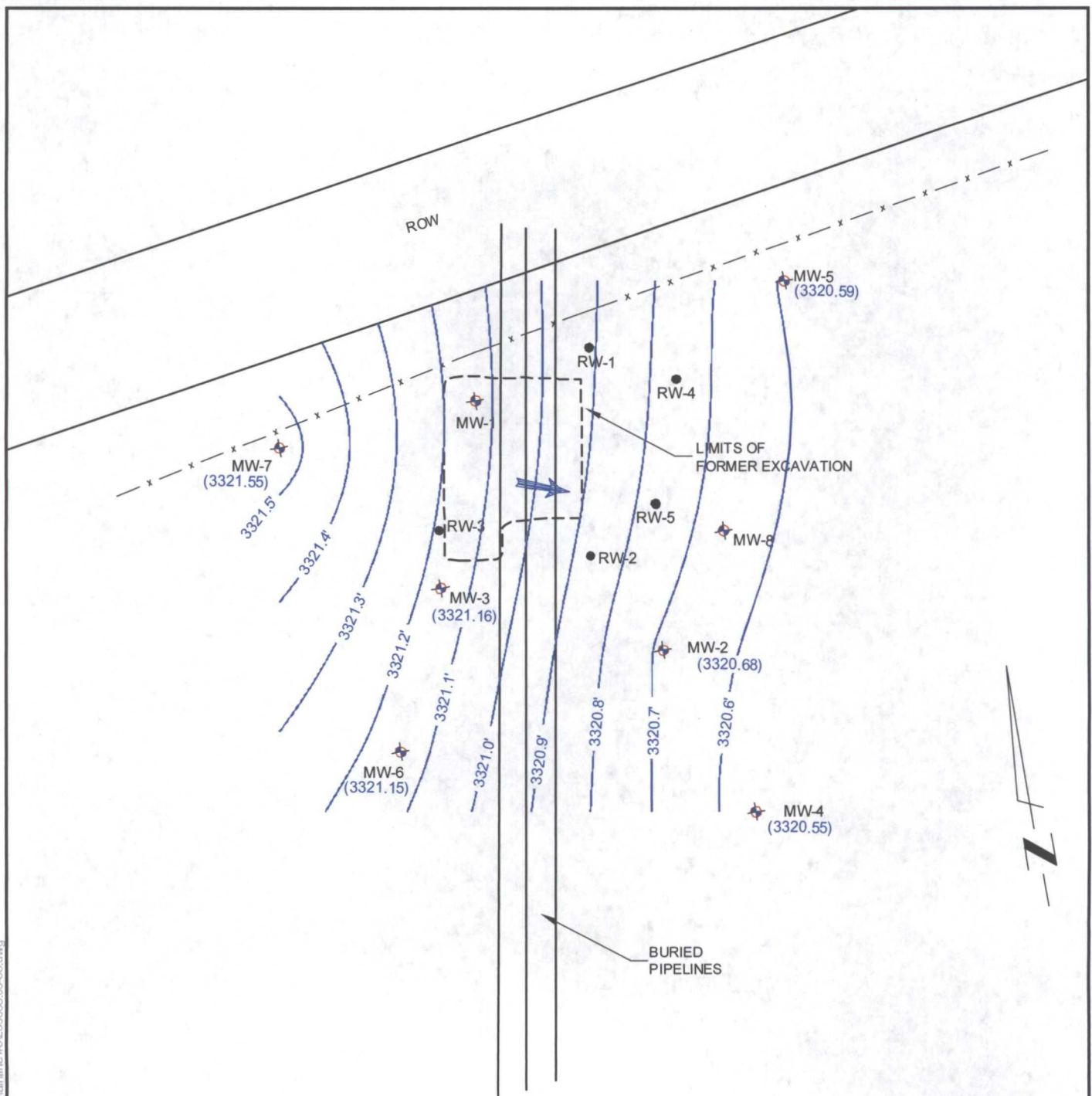


EARTHCONSM
Environmental Challenges
BUSINESS SOLUTIONS

Figure 3C
3rd Quarter 2011 - Groundwater Gradient Map
August 30, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

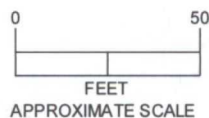
DATE: 10/11



LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- (3121.11) - Corrected Ground Water Elevation, ft.
- 3321.00- - Ground Water Elevation Contour, ft.
Contour Interval=0.1 ft.
- ➡ - Apparent Ground Water Flow Direction

Note: MW-1, MW-8, & RW-1 through RW-5 are not used to prepare the contours.



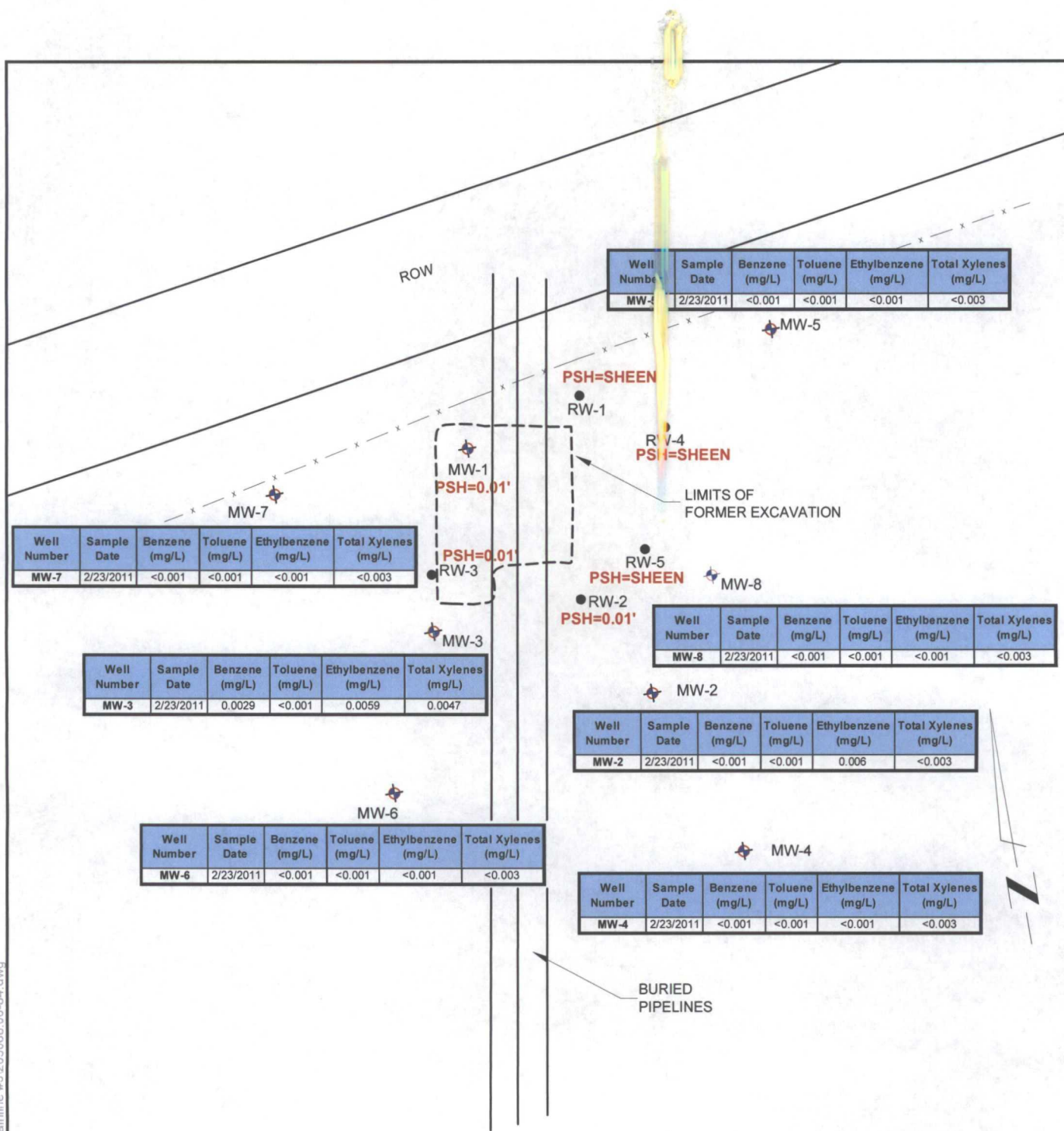
EARTHCON^{SV}

Environmental Challenges
BUSINESS SOLUTIONS

Figure 3D
4th Quarter 2011 - Groundwater Gradient Map
November 29, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Marketing, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 12/11



LEGEND:

- RW-1 - Recovery Well Location
- ⊕ MW-1 - Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)

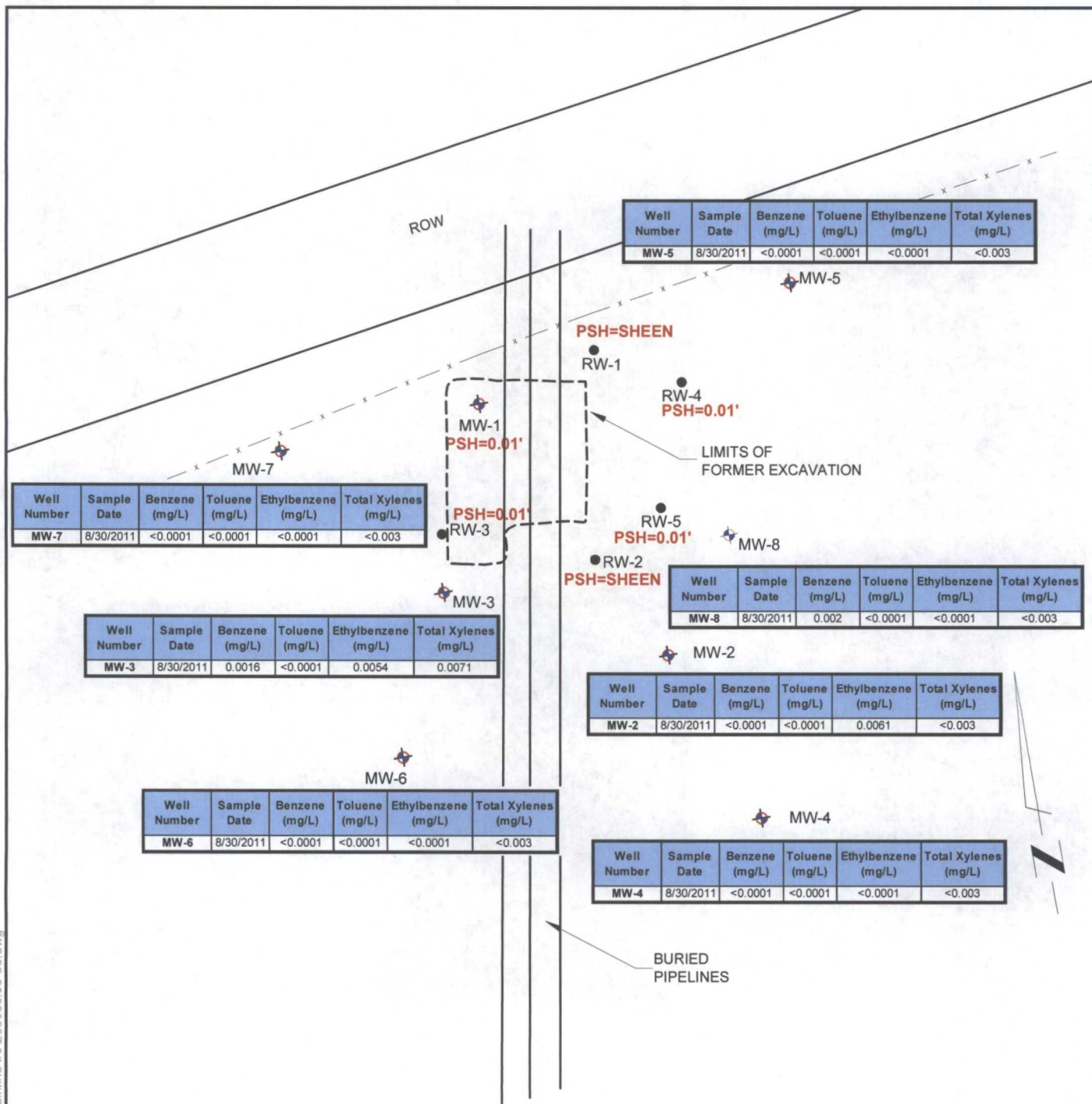
| Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|----------------|----------------|---------------------|----------------------|
| 0.01 | 0.75 | 0.75 | 0.62 |

Concentrations in **BOLD** exceed the NMOCD Remediation Criteria Standards for the Site.



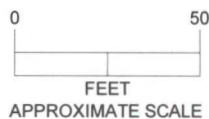
Figure 4A
1st Quarter 2011 - Groundwater Analytical Map
February 23, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Pipeline, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00 DATE: 12/11



LEGEND:

- RW-1 - Recovery Well Location
- ⊕ MW-1 - Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)



| Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|----------------------------|----------------|---------------------|----------------------|
| NMOCD Remediation Criteria | | | |
| 0.01 | 0.75 | 0.75 | 0.62 |

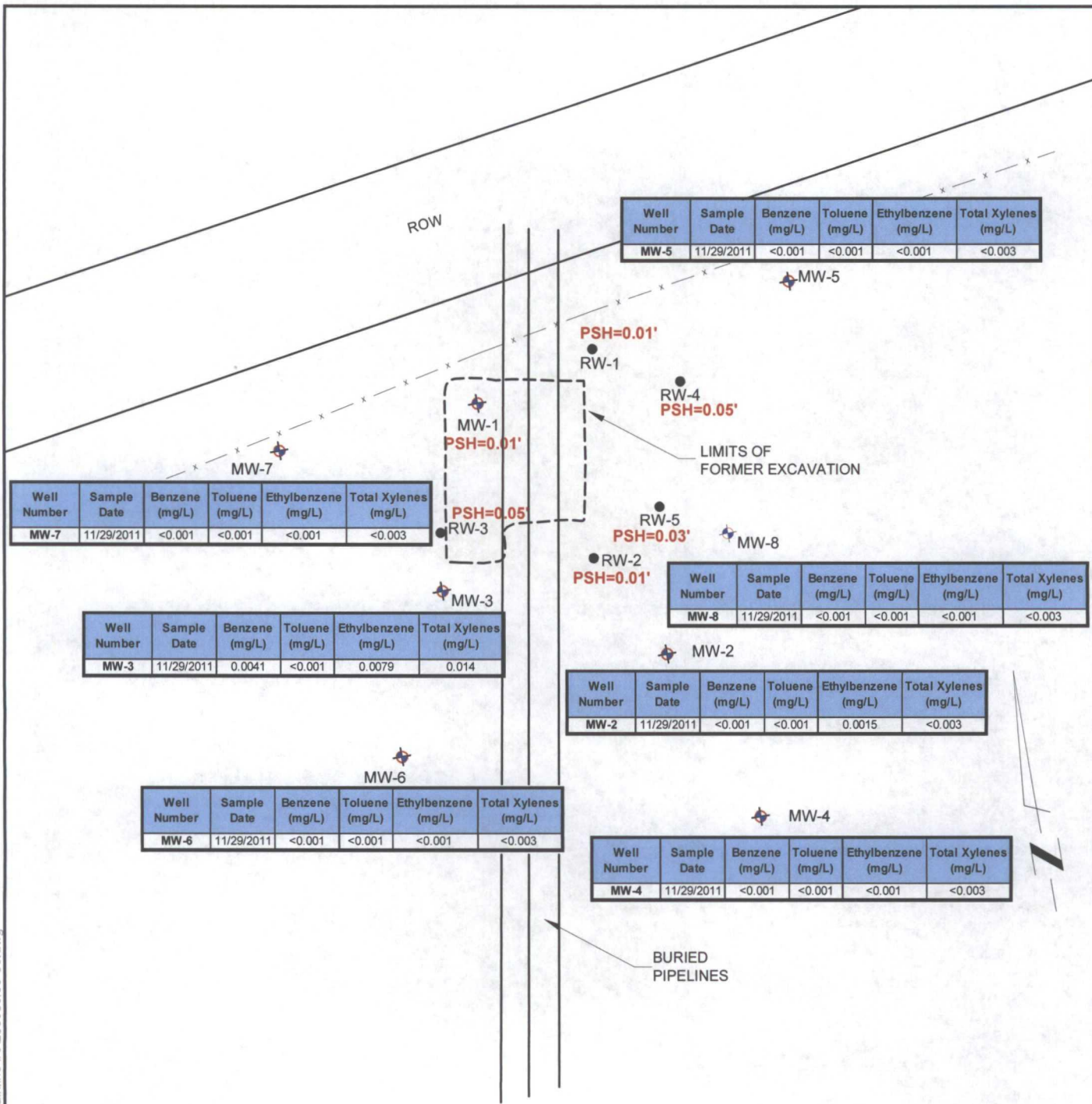
Concentrations in **BOLD** exceed the NMOCD Remediation Criteria Standards for the Site.



Figure 4C
3rd Quarter 2011 - Groundwater Analytical Map
August 30, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Pipeline, L.P.
Lea County, New Mexico

PROJ. NO: 205068.00

DATE: 12/11



| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-5 | 11/29/2011 | <0.001 | <0.001 | <0.001 | <0.003 |

| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-7 | 11/29/2011 | <0.001 | <0.001 | <0.001 | <0.003 |

| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-3 | 11/29/2011 | 0.0041 | <0.001 | 0.0079 | 0.014 |

| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-6 | 11/29/2011 | <0.001 | <0.001 | <0.001 | <0.003 |

| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-8 | 11/29/2011 | <0.001 | <0.001 | <0.001 | <0.003 |

| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-2 | 11/29/2011 | <0.001 | <0.001 | 0.0015 | <0.003 |

| Well Number | Sample Date | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|-------------|-------------|----------------|----------------|---------------------|----------------------|
| MW-4 | 11/29/2011 | <0.001 | <0.001 | <0.001 | <0.003 |

LEGEND:

- RW-1 -Recovery Well Location
- ⊕ MW-1 -Monitor Well Location
- PSH=0.01' - Phase Separated Hydrocarbon Thickness (feet)



| Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
|----------------|----------------|---------------------|----------------------|
| 0.01 | 0.75 | 0.75 | 0.62 |

NMOCD Remediation Criteria

Concentrations in **BOLD** exceed the NMOCD Remediation Criteria Standards for the Site.



Figure 4D
4th Quarter 2011 - Groundwater Analytical Map
November 29, 2011
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Plains Pipeline, L.P.
Lea County, New Mexico

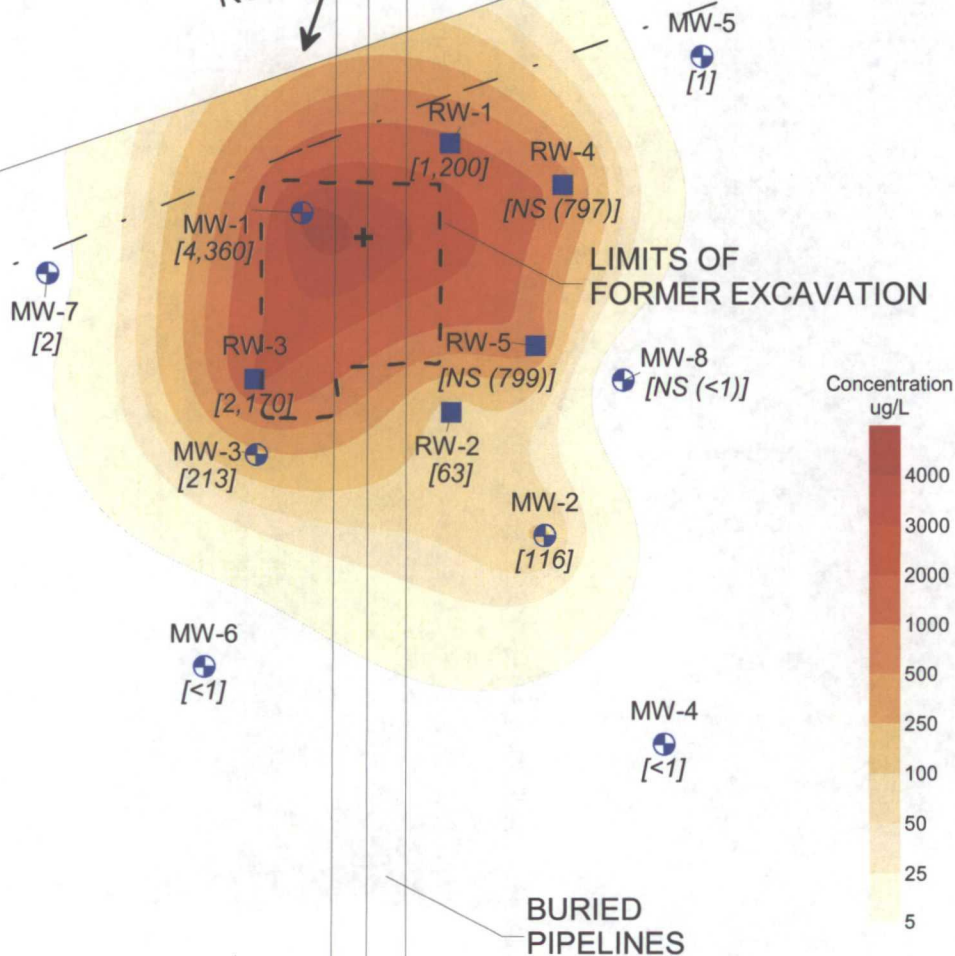
PROJ. NO: 205068.00

DATE: 12/11



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled,
Assumed Concentration (ug/L)

0 FT 50 FT 100 FT



Figure 5
2008 - Benzene Isopleth Map
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico



Insufficient data to complete contours

ROW

MW-5
[<1]

RW-1
[263]

RW-4
[NS (797)]

MW-1
[3,420]

LIMITS OF
FORMER EXCAVATION

MW-7
[<1]

RW-3
[834]

RW-5
[NS (799)]

MW-8
[NS (<1)]

MW-3
[48]

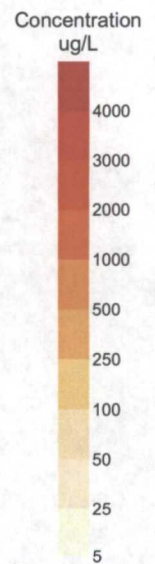
RW-2
[276]

MW-2
[43]

MW-6
[<1]

MW-4
[<1]

BURIED
PIPELINES



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

+ Plume Center of Mass

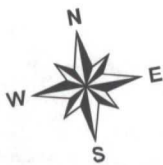
[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled,
Assumed Concentration (ug/L)

0 FT 50 FT 100 FT

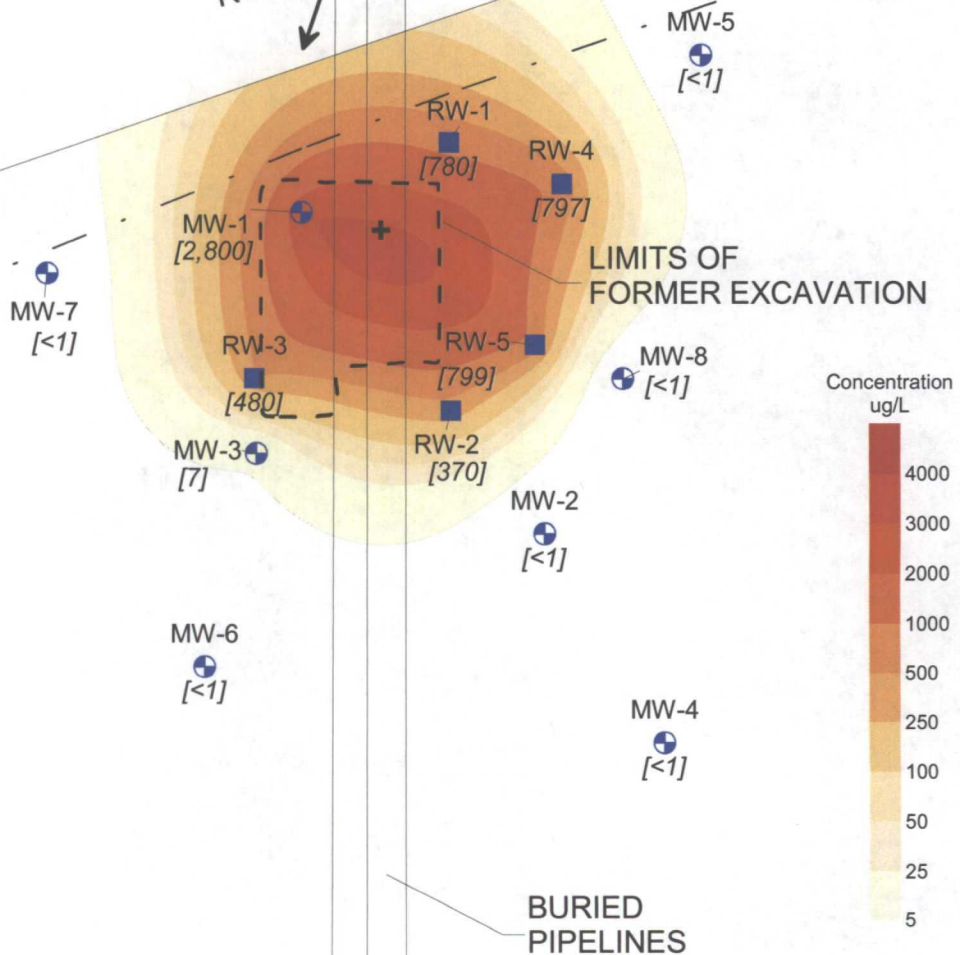


Figure 6
2009 - Benzene Isopleth Map
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

[NS (803)] Well Not Sampled,
Assumed Concentration (ug/L)

0 FT 50 FT 100 FT

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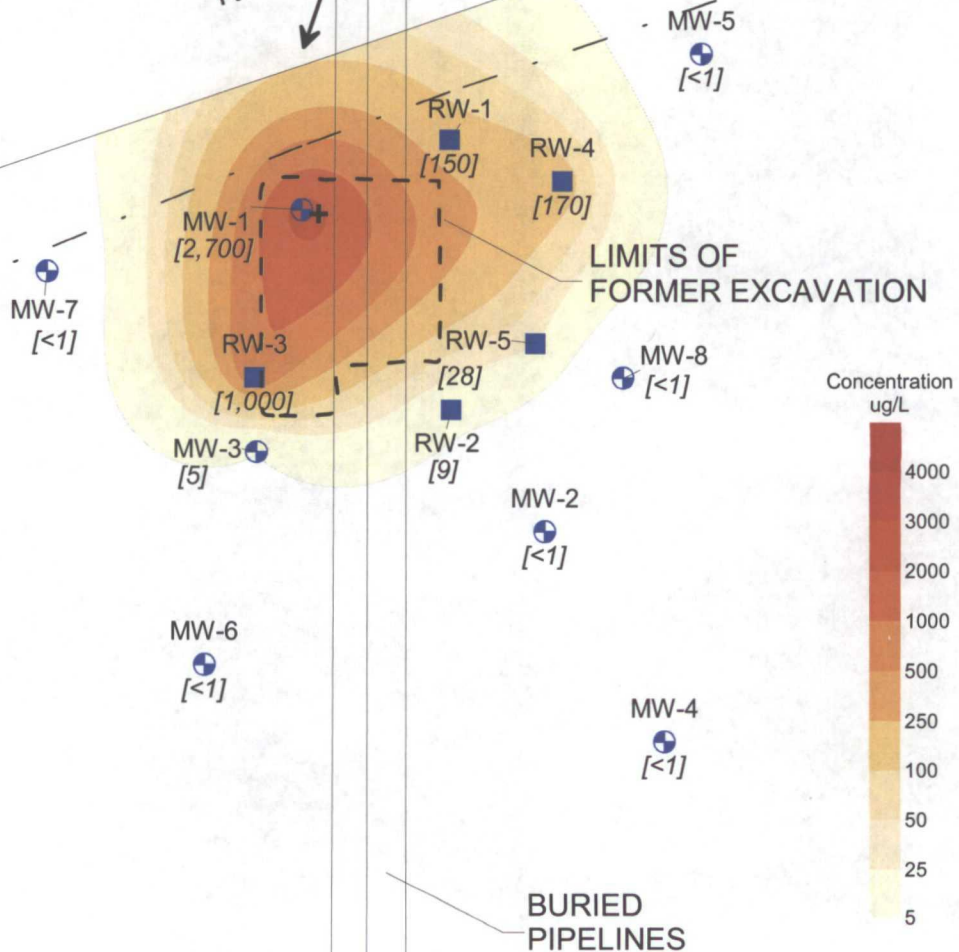
Figure 7
2010 - Benzene Isopleth Map
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico

PROJ. NO: 205068.00 DN: KMG DATE: 1/12



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

+ Plume Center of Mass

[2] Benzene Concentration (ug/L)

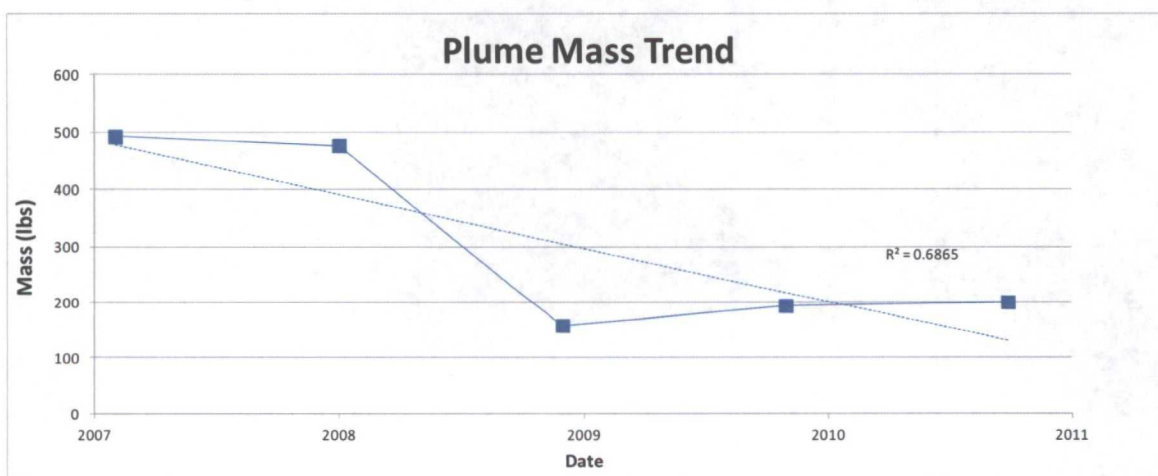
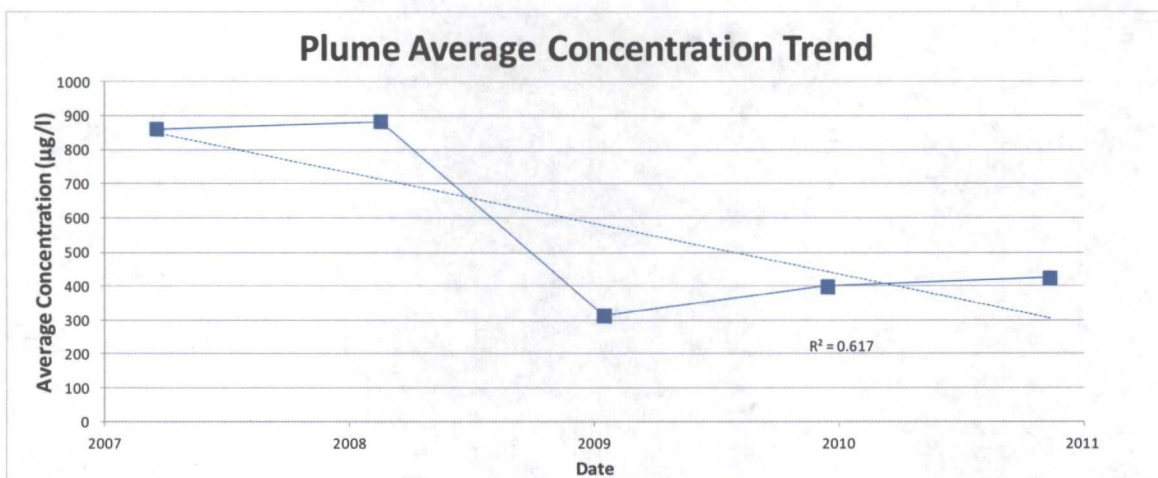
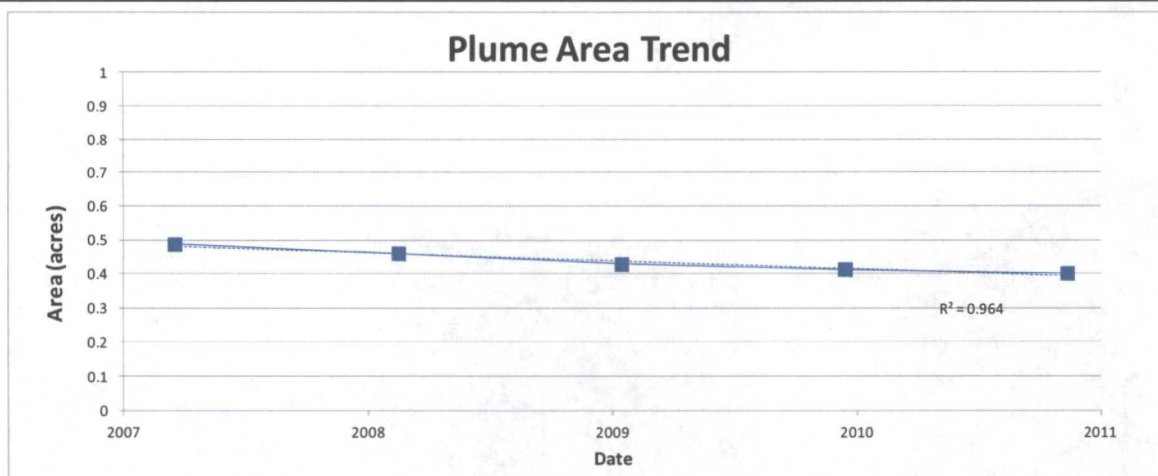
[NS (803)] Well Not Sampled,
Assumed Concentration (ug/L)

0 FT 50 FT 100 FT

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Figure 8
2011 - Benzene Isopleth Map
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico

PROJ. NO: 205068.00 DN: KMG DATE: 1/12



Summary of Plume Stability Characteristics

| Date | Area (Acres) | Average Conc. (µg/l) | Mass (lbs) |
|------|-----------------|-------------------------|---------------|
| 2008 | 0.46 | 494 | 269 |
| 2009 | 0.42 | 374 | 185 |
| 2010 | 0.34 | 473 | 187 |
| 2011 | 0.30 | 241 | 86 |

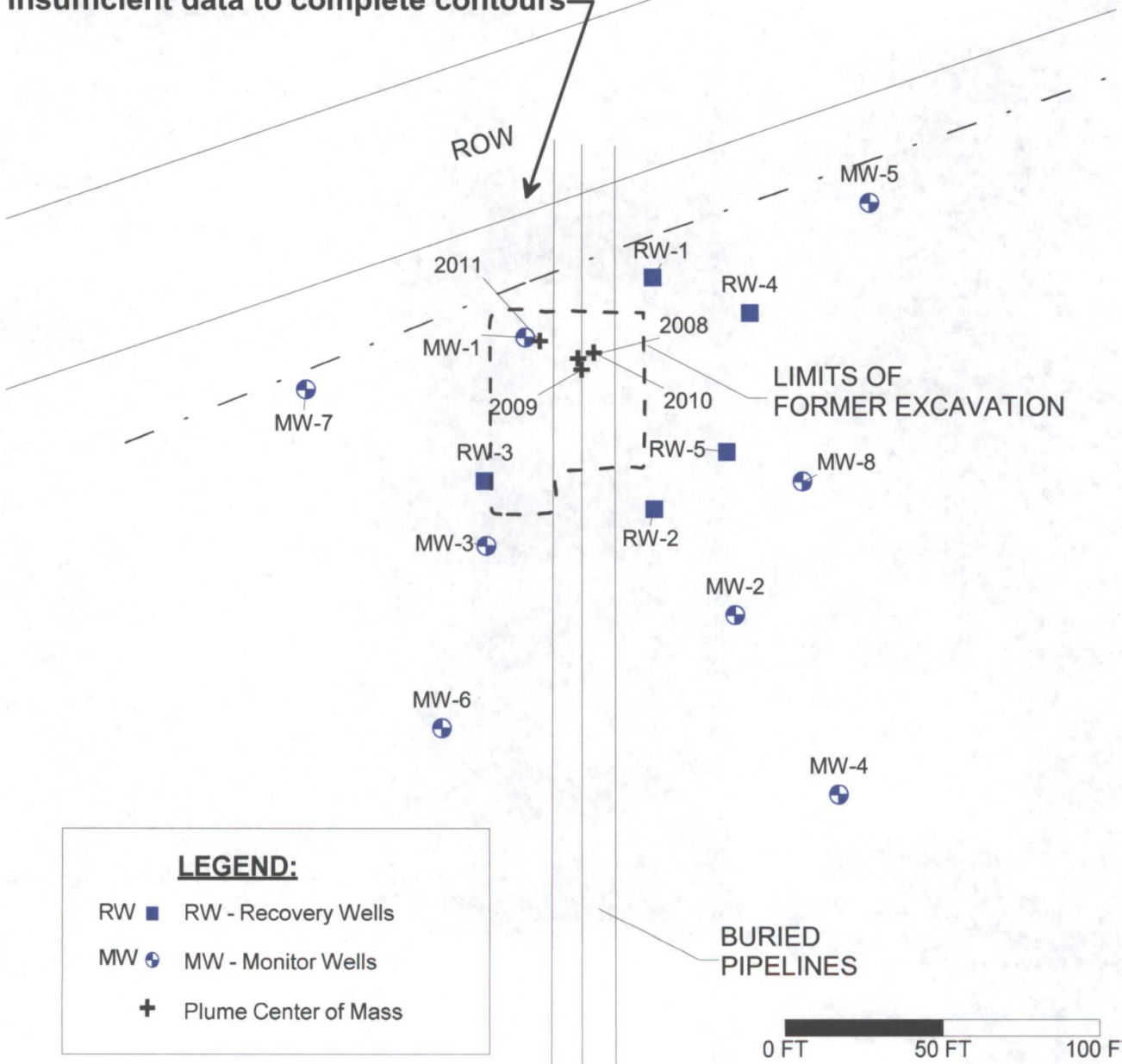


Figure 9
Plume Stability Analysis
Summary 2008-2011
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico



Insufficient data to complete contours

ROW



LEGEND:

RW ■ RW - Recovery Wells

MW ⊕ MW - Monitor Wells

⊕ Plume Center of Mass

Center of Mass Trend

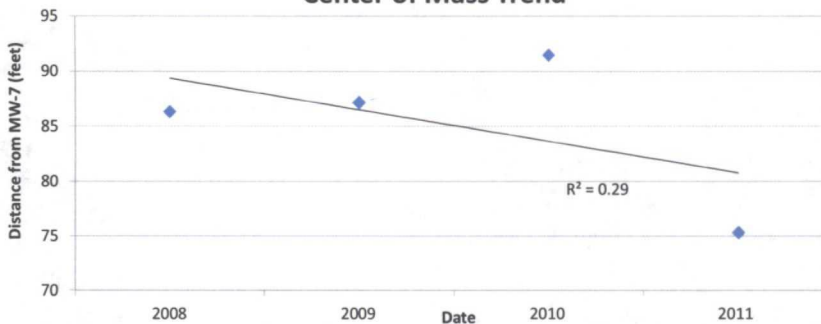


Figure 10
Center of Mass Summary
2008-2011
Plains Pipeline, L.P.
Vacuum to Jal 14" Mainline #3
SRS. No.: 2003-00117
Lea County, New Mexico

PROJ. NO: 205068.00 DN: KMG DATE: 1/12

TABLES

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| Table 2 | Historical Monitor Well Survey Data and Groundwater Elevations |
| Table 3 | 2011 Groundwater Analytical Results |
| Table 4 | Historical Groundwater Analytical Results |
| Table 5 | Groundwater Analytical Results for Polynuclear Aromatic Hydrocarbons (PAHs) from wells with PSH/Sheen |
| Table 6 | 2011 Monthly PSH and Dissolved Phase Groundwater Recovery Data |

TABLE 1
2011 MONITOR WELL SURVEY DATA AND GROUNDWATER ELEVATIONS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal 14" Mainline #3
 Lea County, New Mexico

| Well Number | Date Measured | Top of Casing Elevation (ft) | Total Depth (ft) | Depth to Product (ft) | Depth to Water (ft) | PSH Thickness (ft) | Recovery Method | Recovery | | Corrected Groundwater Elevation (ft) | Comments |
|-------------|---------------|------------------------------|------------------|-----------------------|---------------------|--------------------|-----------------|----------|------------------|--------------------------------------|----------|
| | | | | | | | | PSH | H ₂ O | | |
| MW-1 | 02/23/11 | 3362.64 | 55.60 | 47.98 | 47.99 | 0.01 | Hand Bailed | 0.10 | 9.90 | 3314.66 | |
| MW-1 | 06/02/11 | 3362.64 | 55.60 | 48.13 | 48.14 | 0.01 | NA | NA | NA | 3314.51 | |
| MW-1 | 08/30/11 | 3362.64 | 55.60 | 48.35 | 48.36 | 0.01 | NA | NA | NA | 3314.29 | |
| MW-1 | 11/29/11 | 3362.64 | 55.60 | 48.57 | 48.58 | 0.01 | NA | NA | NA | 3314.07 | |
| MW-2 | 02/23/11 | 3367.00 | 56.30 | NA | 45.74 | NA | NA | NA | NA | 3321.26 | Sampled |
| MW-2 | 06/02/11 | 3367.00 | 56.30 | NA | 45.89 | NA | NA | NA | NA | 3321.11 | Sampled |
| MW-2 | 08/30/11 | 3367.00 | 56.30 | NA | 46.06 | NA | NA | NA | NA | 3320.94 | Sampled |
| MW-2 | 11/29/11 | 3367.00 | 56.30 | NA | 46.32 | NA | NA | NA | NA | 3320.68 | Sampled |
| MW-3 | 02/23/11 | 3369.1 | 56.18 | NA | 47.41 | NA | NA | NA | NA | 3321.69 | Sampled |
| MW-3 | 06/02/11 | 3369.1 | 56.18 | NA | 47.51 | NA | NA | NA | NA | 3321.59 | Sampled |
| MW-3 | 08/30/11 | 3369.1 | 56.18 | NA | 47.73 | NA | NA | NA | NA | 3321.37 | Sampled |
| MW-3 | 11/29/11 | 3369.1 | 56.18 | NA | 47.94 | NA | NA | NA | NA | 3321.16 | Sampled |
| MW-4 | 02/23/11 | 3365.12 | 59.40 | NA | 44.00 | NA | NA | NA | NA | 3321.12 | Sampled |
| MW-4 | 06/02/11 | 3365.12 | 59.40 | NA | 44.14 | NA | NA | NA | NA | 3320.98 | Sampled |
| MW-4 | 08/30/11 | 3365.12 | 59.40 | NA | 44.35 | NA | NA | NA | NA | 3320.77 | Sampled |
| MW-4 | 11/29/11 | 3365.12 | 59.40 | NA | 44.57 | NA | NA | NA | NA | 3320.55 | Sampled |
| MW-5 | 02/23/11 | 3364.74 | 53.03 | NA | 43.56 | NA | NA | NA | NA | 3321.18 | Sampled |
| MW-5 | 06/02/11 | 3364.74 | 53.03 | NA | 43.64 | NA | NA | NA | NA | 3321.10 | Sampled |
| MW-5 | 08/30/11 | 3364.74 | 53.03 | NA | 43.86 | NA | NA | NA | NA | 3320.88 | Sampled |
| MW-5 | 11/29/11 | 3364.74 | 53.03 | NA | 44.15 | NA | NA | NA | NA | 3320.59 | Sampled |
| MW-6 | 02/23/11 | 3368.96 | 59.21 | NA | 47.27 | NA | NA | NA | NA | 3321.69 | Sampled |
| MW-6 | 06/02/11 | 3368.96 | 59.21 | NA | 47.35 | NA | NA | NA | NA | 3321.61 | Sampled |
| MW-6 | 08/30/11 | 3368.96 | 59.21 | NA | 47.61 | NA | NA | NA | NA | 3321.35 | Sampled |
| MW-6 | 11/29/11 | 3368.96 | 59.21 | NA | 47.81 | NA | NA | NA | NA | 3321.15 | Sampled |

TABLE 1
2011 MONITOR WELL SURVEY DATA AND GROUNDWATER ELEVATIONS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal 14" Mainline #3
 Lea County, New Mexico

| Well Number | Date Measured | Top of Casing Elevation (ft) | Total Depth (ft) | Depth to Product (ft) | Depth to Water (ft) | PSH Thickness (ft) | Recovery Method | Recovery | | Corrected Groundwater Elevation (ft) | Comments |
|-------------|---------------|------------------------------|------------------|-----------------------|---------------------|--------------------|-----------------|----------|------|--------------------------------------|----------|
| MW-7 | 02/23/11 | 3370.25 | 59.69 | NA | 48.19 | NA | NA | NA | NA | 3322.06 | Sampled |
| MW-7 | 06/02/11 | 3370.25 | 59.69 | NA | 48.27 | NA | NA | NA | NA | 3321.98 | Sampled |
| MW-7 | 08/30/11 | 3370.25 | 59.69 | NA | 48.50 | NA | NA | NA | NA | 3321.75 | Sampled |
| MW-7 | 11/29/11 | 3370.25 | 59.69 | NA | 48.70 | NA | NA | NA | NA | 3321.55 | Sampled |
| MW-8 | 02/23/11 | NS | 59.53 | NA | 43.84 | NA | NA | NA | NA | NS | Sampled |
| MW-8 | 06/02/11 | NS | 59.53 | NA | 43.94 | NA | NA | NA | NA | NS | Sampled |
| MW-8 | 08/30/11 | NS | 59.53 | NA | 44.19 | NA | NA | NA | NA | NS | Sampled |
| MW-8 | 11/29/11 | NS | 59.53 | NA | 44.39 | NA | NA | NA | NA | NS | Sampled |
| RW-1 | 02/23/11 | 3368.12 | 58.70 | ND | 46.60 | ND | NA | NA | NA | 3321.52 | |
| RW-1 | 06/02/11 | 3368.12 | 58.70 | ND | 46.16 | ND | NA | NA | NA | 3321.96 | Sampled |
| RW-1 | 08/30/11 | 3368.12 | 58.70 | Sheen | 46.99 | Sheen | NA | NA | NA | 3321.13 | |
| RW-1 | 11/29/11 | 3368.12 | 58.70 | 47.17 | 47.18 | 0.01 | NA | NA | NA | 3320.95 | |
| RW-2 | 02/23/11 | 3398.32 | 58.98 | 46.91 | 46.92 | 0.01 | NA | NA | NA | 3351.41 | |
| RW-2 | 06/02/11 | 3398.32 | 58.98 | Sheen | 47.08 | Sheen | NA | NA | NA | 3351.24 | Sampled |
| RW-2 | 08/30/11 | 3398.32 | 58.98 | Sheen | 47.32 | Sheen | NA | NA | NA | 3351.00 | |
| RW-2 | 11/29/11 | 3398.32 | 58.98 | 47.52 | 47.53 | 0.01 | NA | NA | NA | 3350.80 | |
| RW-3 | 02/23/11 | 3369.05 | 59.57 | 47.35 | 47.36 | 0.01 | NA | NA | NA | 3321.70 | |
| RW-3 | 06/02/11 | 3369.05 | 59.57 | 47.51 | 47.52 | 0.01 | NA | NA | NA | 3321.54 | Sampled |
| RW-3 | 08/30/11 | 3369.05 | 59.57 | 47.74 | 47.75 | 0.01 | NA | NA | NA | 3321.31 | |
| RW-3 | 11/29/11 | 3369.05 | 59.57 | 47.95 | 48.00 | 0.05 | NA | NA | NA | 3321.09 | |
| RW-4 | 02/23/11 | NS | 57.63 | 46.06 | 46.07 | 0.01 | Pumped | 0.20 | 9.80 | NS | |
| RW-4 | 06/02/11 | NS | 57.63 | Sheen | 46.24 | Sheen | NA | NA | NA | NS | Sampled |
| RW-4 | 08/30/11 | NS | 57.63 | 46.46 | 46.47 | 0.01 | | 0.10 | 4.90 | NS | |
| RW-4 | 11/29/11 | NS | 57.63 | 46.65 | 46.70 | 0.05 | NA | NA | NA | NS | |

TABLE 1
2011 MONITOR WELL SURVEY DATA AND GROUNDWATER ELEVATIONS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal 14" Mainline #3
 Lea County, New Mexico

| Well Number | Date Measured | Top of Casing Elevation (ft) | Total Depth (ft) | Depth to Product (ft) | Depth to Water (ft) | PSH Thickness (ft) | Recovery Method | Recovery | | Corrected Groundwater Elevation (ft) | Comments |
|-------------|---------------|------------------------------|------------------|-----------------------|---------------------|--------------------|-----------------|----------|------|--------------------------------------|----------|
| RW-5 | 02/23/11 | NS | 59.73 | ND | 46.92 | ND | Pumped | 0.10 | 9.90 | NS | |
| RW-5 | 06/02/11 | NS | 59.73 | 47.09 | 47.10 | 0.01 | NA | NA | NA | NS | Sampled |
| RW-5 | 08/30/11 | NS | 59.73 | 47.32 | 47.33 | 0.01 | | 0.10 | 4.90 | NS | |
| RW-5 | 11/29/11 | NS | 59.73 | 47.52 | 47.55 | 0.03 | NA | NA | NA | NS | |

NA: Not Applicable
 ND: Not Detected
 NS: Not Surveyed

TABLE 2

Historical Monitor Well Survey Data and Groundwater Elevations

Available on CD attached to back cover

TABLE 3
2011 GROUNDWATER ANALYTICAL RESULTS
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|-------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| MW-1 | 06/02/11 | 1106109-01 | 2.7 | 0.030 | 0.64 | 0.56 |
| MW-2 | 02/23/11 | 1102702-01 | <0.001 | <0.001 | 0.0060 | <0.003 |
| MW-2 | 06/02/11 | 1106118-01 | <0.001 | <0.001 | 0.0090 | <0.003 |
| MW-2 | 08/30/11 | 11081012-01 | <0.001 | <0.001 | 0.0061 | <0.003 |
| MW-2 | 11/29/11 | 1111902-01 | <0.001 | <0.001 | 0.0015 | <0.003 |
| MW-3 | 02/23/11 | 1102702-02 | 0.0029 | <0.001 | 0.0059 | 0.0047 |
| MW-3 | 06/02/11 | 1106118-02 | 0.0130 | <0.001 | 0.015 | 0.015 |
| MW-3 | 08/30/11 | 11081012-02 | 0.0016 | <0.001 | 0.0054 | 0.0071 |
| MW-3 | 11/29/11 | 1111902-02 | 0.0041 | <0.001 | 0.0079 | 0.014 |
| MW-4 | 02/23/11 | 1102702-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 06/02/11 | 1106118-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 08/30/11 | 11081012-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 11/29/11 | 1111902-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 02/23/11 | 1102702-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 06/02/11 | 1106118-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 08/30/11 | 11081012-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 11/29/11 | 1111902-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 02/23/11 | 1102702-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 06/02/11 | 1106118-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 08/30/11 | 11081012-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 11/29/11 | 1111902-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 02/23/11 | 1102702-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 06/02/11 | 1106118-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 08/30/11 | 11081012-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 11/29/11 | 1111902-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 02/23/11 | 1102702-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 06/02/11 | 1106118-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 08/30/11 | 11081012-07 | 0.0020 | <0.001 | <0.001 | <0.003 |
| MW-8 | 11/29/11 | 1111902-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| RW-1 | 06/02/11 | 1106109-02 | 0.150 | 0.011 | 0.069 | 0.100 |
| RW-2 | 06/02/11 | 1106109-03 | 0.0089 | 0.0013 | 0.0069 | 0.013 |

TABLE 3
2011 GROUNDWATER ANALYTICAL RESULTS
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| RW-3 | 06/02/11 | 1106109-04 | 1.0 | 0.01 | 0.20 | 0.280 |
| RW-4 | 06/02/11 | 1106109-05 | 0.17 | 0.22 | 0.27 | 0.630 |
| RW-5 | 06/02/11 | 1106109-06 | 0.0280 | 0.0066 | 0.0390 | 0.044 |

< = Not Detected at the reporting limit.

MDL = Method detection limit

SDL = Sample detection limit

NMOCD - New Mexico Oil Conservation Division

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|-------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| MW-1 | 5/20/2008 | T22267-1 | 4.36 | 1.47 | 0.80 | 1.20 |
| MW-1 | 5/20/2009 | 9052216 | 3.42 | 0.03 J | 0.60 | 0.64 |
| MW-1 | 5/12/2010 | 1005477-01 | 2.80 | 0.17 | 0.70 | 1.00 |
| MW-1 | 06/02/11 | 1106109-01 | 2.7 | 0.030 | 0.64 | 0.56 |
| | | | | | | |
| MW-2 | 03/28/06 | T13037-1 | 0.243 | 0.00750 | 0.04570 | 0.09390 |
| MW-2 | 06/15/06 | T13863-1 | 0.333 | 0.00330 J | 0.01960 | 0.01040 |
| MW-2 | 09/12/06 | T14672-1 | 0.178 | <0.00020 | 0.01780 | 0.00940 |
| MW-2 | 12/06/06 | T15622-1 | 0.21400 ^a | <0.00020 | 0.01850 | 0.00800 |
| MW-2 | 02/28/07 | T16496-1 | 0.18600 ^a | <0.00020 | 0.01410 | 0.00150 |
| MW-2 | 05/30/07 | T17641-1 | 0.27000 ^a | <0.00023 | 0.01880 | 0.00290 |
| MW-2 | 09/07/07 | T18808-1 | 0.00210 | <0.00023 | <0.00035 | 0.00680 |
| MW-2 | 11/13/07 | T19744-1 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-2 | 02/28/08 | T21043-1 | <0.00021 | <0.00023 | <0.00035 | 0.00150 J |
| MW-2 | 05/20/08 | T22267-2 | 0.27800 ^a | <0.00023 | 0.03200 | 0.00069 J |
| MW-2 | 08/20/08 | T23512-1 | 0.01080 | <0.0005 | <0.0005 | <0.001 |
| MW-2 | 11/20/08 | 180209 | 0.176 | <0.00100 | 0.00630 | <0.00100 |
| MW-2 | 02/18/09 | 9021907 | 0.117 | <0.00100 | <0.00100 | <0.00100 |
| MW-2 | 05/20/09 | 9052216 | 0.0357 | <0.000188 | 0.00050 J | <0.000163 |
| MW-2 | 08/27/09 | 9083116 | 0.0172 | <0.000188 | 0.0011 | <0.000163 |
| MW-2 | 11/18/09 | 215423 | 0.0007 J | <0.000332 | <0.00023 | <0.000143 |
| MW-2 | 02/09/10 | 222042 | <0.000371 | <0.000400 | 0.0012 | <0.000379 |
| MW-2 | 05/12/10 | 1005477-02 | <0.001 | <0.001 | 0.0041 | <0.003 |
| MW-2 | 08/26/10 | 1008902-01 | <0.001 | <0.001 | 0.0033 | <0.003 |
| MW-2 | 11/18/10 | 1011750-01 | <0.001 | <0.001 | 0.0036 | <0.003 |
| MW-2 | 02/23/11 | 1102702-01 | <0.001 | <0.001 | 0.0060 | <0.003 |
| MW-2 | 06/02/11 | 1106118-01 | <0.001 | <0.001 | 0.0090 | <0.003 |
| MW-2 | 08/30/11 | 11081012-01 | <0.001 | <0.001 | 0.0061 | <0.003 |
| MW-2 | 11/29/11 | 1111902-01 | <0.001 | <0.001 | 0.0015 | <0.003 |
| | | | | | | |
| MW-3 | 03/28/06 | T13037-2 | 0.501 | 0.07580 | 0.05180 | 0.06270 |
| MW-3 | 06/15/06 | T13863-2 | 0.432 | <0.0018 | 0.06030 | 0.04530 |
| MW-3 | 09/12/06 | T14672-2 | 0.0612 | <0.00020 | 0.00490 | <0.00036 |
| MW-3 | 12/06/06 | T15622-2 | 0.19000 ^a | 0.00110 | 0.02470 | 0.00360 |
| MW-3 | 02/28/07 | T16496-2 | 0.05830 | 0.00054 J | 0.00520 | 0.00360 |
| MW-3 | 05/30/07 | T17641-2 | 0.05620 | <0.00023 | 0.00410 | <0.00055 |
| MW-3 | 09/07/07 | T18808-2 | <0.00021 | <0.00023 | 0.00790 | <0.00055 |
| MW-3 | 11/13/07 | T19744-2 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-3 | 02/28/08 | T21043-2 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-3 | 05/20/08 | T22267-3 | 0.74800 ^a | 0.00030 J | 0.06190 | 0.00084 J |
| MW-3 | 08/20/08 | T23512-2 | 0.0459 | <0.0005 | 0.0021 | <0.001 |
| MW-3 | 11/20/08 | 180210 | 0.0575 | 0.0268 | 0.0152 | 0.0875 |
| MW-3 | 02/18/09 | 9021907 | 0.0070 | 0.0025 | <0.00100 | <0.00100 |
| MW-3 | 05/20/09 | 9052216 | 0.1660 | 0.1820 | 0.1050 | 0.2120 |
| MW-3 | 08/27/09 | 9083116 | 0.0096 | 0.0248 | 0.0123 | 0.0189 |

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|-------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| MW-3 | 11/18/09 | 215424 | 0.0096 | 0.00700 | 0.0115 | 0.0184 |
| MW-3 | 02/09/10 | 222043 | <0.000371 | <0.000400 | 0.0011 | 0.0007 J |
| MW-3 | 05/12/10 | 1005477-03 | 0.0170 | <0.001 | 0.027 | 0.016 |
| MW-3 | 08/26/10 | 1008902-02 | 0.0084 | <0.001 | 0.0360 | 0.0250 |
| MW-3 | 11/18/10 | 1011750-02 | 0.0030 | <0.001 | 0.0046 | 0.00340 |
| MW-3 | 02/23/11 | 1102702-02 | 0.0029 | <0.001 | 0.0059 | 0.0047 |
| MW-3 | 06/02/11 | 1106118-02 | 0.0130 | <0.001 | 0.015 | 0.015 |
| MW-3 | 08/30/11 | 11081012-02 | 0.0016 | <0.001 | 0.0054 | 0.0071 |
| MW-3 | 11/29/11 | 1111902-02 | 0.0041 | <0.001 | 0.0079 | 0.014 |
| | | | | | | |
| MW-4 | 03/28/06 | T13037-3 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-4 | 06/15/06 | T13863-3 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-4 | 09/12/06 | T14672-3 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-4 | 12/06/06 | T15622-3 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-4 | 02/28/07 | T16496-3 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-4 | 05/30/07 | T17641-3 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-4 | 09/07/07 | T18808-3 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-4 | 11/13/07 | T19744-3 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-4 | 02/28/08 | T21043-3 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-4 | 05/20/08 | T22267-4 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-4 | 08/20/08 | T23512-3 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-4 | 11/20/08 | 180211 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-4 | 02/18/09 | 9021907 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-4 | 05/20/09 | 9052216 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-4 | 08/27/09 | 9083116 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-4 | 11/18/09 | 215425 | <0.000160 | <0.000332 | <0.000230 | <0.000143 |
| MW-4 | 02/09/10 | 222044 | <0.000371 | <0.000400 | <0.000430 | <0.000379 |
| MW-4 | 05/12/10 | 1005477-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 08/26/10 | 1008902-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 11/18/10 | 1011750-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 02/23/11 | 1102702-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 06/02/11 | 1106118-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 08/30/11 | 11081012-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-4 | 11/29/11 | 1111902-03 | <0.001 | <0.001 | <0.001 | <0.003 |
| | | | | | | |
| MW-5 | 03/28/06 | T13037-4 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-5 | 06/15/06 | T13863-4 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-5 | 09/12/06 | T14672-4 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-5 | 12/06/06 | T15622-4 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-5 | 02/28/07 | T16496-4 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-5 | 05/30/07 | T17641-4 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|-------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| MW-5 | 09/07/07 | T18808-4 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-5 | 11/13/07 | T19744-4 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-5 | 02/28/08 | T21043-4 | <0.00021 | <0.00023 | 0.00210 | <0.00055 |
| MW-5 | 05/20/08 | T22267-5 | 0.00120 | <0.00023 | <0.00035 | <0.00055 |
| MW-5 | 08/20/08 | T23512-4 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-5 | 11/20/08 | 180212 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-5 | 02/18/09 | 9021907 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-5 | 05/20/09 | 9052216 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-5 | 08/27/09 | 9083116 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-5 | 11/18/09 | 215426 | <0.000160 | <0.000332 | <0.000230 | <0.000143 |
| MW-5 | 02/09/10 | 222045 | <0.000208 | <0.000208 | 0.0010 | 0.0013 |
| MW-5 | 05/12/10 | 1005477-05 | <0.001 | <0.001 | 0.0018 | <0.003 |
| MW-5 | 08/26/10 | 1008902-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 11/18/10 | 1011750-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 02/23/11 | 1102702-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 06/02/11 | 1106118-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 08/30/11 | 11081012-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-5 | 11/29/11 | 1111902-04 | <0.001 | <0.001 | <0.001 | <0.003 |
| | | | | | | |
| MW-6 | 03/28/06 | T13037-5 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-6 | 06/15/06 | T13863-5 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-6 | 09/12/06 | T14672-5 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-6 | 12/06/06 | T15622-5 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-6 | 02/28/07 | T16496-5 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-6 | 05/30/07 | T17641-5 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-6 | 09/07/07 | T18808-5 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-6 | 11/13/07 | T19744-5 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-6 | 02/28/08 | T21043-5 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-6 | 05/20/08 | T22267-8 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-6 | 08/20/08 | T23512-5 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-6 | 11/20/08 | 180213 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-6 | 02/18/09 | 9021907 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-6 | 05/20/09 | 9052216 | <0.000149 | <0.000188 | <0.000178 | 0.0002 J |
| MW-6 | 08/27/09 | 9083116 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-6 | 11/18/09 | 215427 | <0.000160 | <0.000332 | <0.000230 | <0.000143 |
| MW-6 | 02/09/10 | 222046 | <0.000208 | <0.000208 | <0.000303 | <0.000326 |
| MW-6 | 05/12/10 | 1005477-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 08/26/10 | 1008902-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 11/18/10 | 1011750-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 02/23/11 | 1102702-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 06/02/11 | 1106118-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 08/30/11 | 11081012-05 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-6 | 11/29/11 | 1111902-05 | <0.001 | <0.001 | <0.001 | <0.003 |

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
 Plains Marketing, L.P.
 SRS #2003-00117
 Vacuum to Jal Mainline #3
 Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|-------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| MW-7 | 03/28/06 | T13037-6 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-7 | 06/15/06 | T13863-6 | <0.00038 | <0.00036 | <0.00035 | <0.00072 |
| MW-7 | 09/12/06 | T14672-6 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-7 | 12/06/06 | T15622-6 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-7 | 02/28/07 | T16496-6 | <0.00035 | <0.00020 | <0.00033 | <0.00036 |
| MW-7 | 05/30/07 | T17641-6 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-7 | 09/07/07 | T18808-6 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-7 | 11/13/07 | T19744-6 | <0.0005 | <0.0005 | <0.0005 | <0.001 |
| MW-7 | 02/28/08 | T21043-6 | <0.00021 | <0.00023 | <0.00035 | <0.00055 |
| MW-7 | 05/20/08 | T22267-7 | 0.00650 | <0.00023 * | 0.00060 J* | <0.00055 * |
| MW-7 | 08/20/08 | T23512-6 | 0.00110 | <0.0005 | <0.0005 | <0.001 |
| MW-7 | 11/20/08 | 180214 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-7 | 02/18/09 | 187838 | <0.00100 | <0.00100 | <0.00100 | <0.00100 |
| MW-7 | 05/20/09 | 9052216 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-7 | 08/27/09 | 9083116 | <0.000149 | <0.000188 | <0.000178 | <0.000163 |
| MW-7 | 11/18/09 | 215428 | <0.000160 | <0.000332 | <0.000230 | <0.000143 |
| MW-7 | 02/09/10 | 222047 | <0.000208 | <0.000208 | <0.000303 | <0.000326 |
| MW-7 | 05/12/10 | 1005477-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 08/26/10 | 1008902-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 11/18/10 | 1011750-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 02/23/11 | 1102702-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 06/02/11 | 1106118-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 08/30/11 | 11081012-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-7 | 11/29/11 | 1111902-06 | <0.001 | <0.001 | <0.001 | <0.003 |
| | | | | | | |
| MW-8 | 05/12/10 | 1005477-08 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 08/26/10 | 1008902-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 11/18/10 | 1011750-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 02/23/11 | 1102702-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 06/02/11 | 1106118-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| MW-8 | 08/30/11 | 11081012-07 | 0.0020 | <0.001 | <0.001 | <0.003 |
| MW-8 | 11/29/11 | 1111902-07 | <0.001 | <0.001 | <0.001 | <0.003 |
| | | | | | | |
| RW-1 | 5/20/2008 | T22267-6 | 1.2 | 0.603 | 0.283 | 0.541 |
| RW-1 | 5/20/2009 | 9052216 | 0.263 | 0.105 | 0.0636 | 0.143 |
| RW-1 | 5/12/2010 | 1005477-09 | 0.78 | 0.78 | 0.53 | 1.1 |
| RW-1 | 06/02/11 | 1106109-02 | 0.150 | 0.011 | 0.069 | 0.100 |
| | | | | | | |
| RW-2 | 5/20/2008 | T22267-10 | 0.0628 | 0.0568 | 0.0594 | 0.112 |
| RW-2 | 5/20/2009 | 9052216 | 0.276 | 0.0184 | 0.14 | 0.25 |
| RW-2 | 5/12/2010 | 1005477-10 | 0.37 | 0.26 | 0.3 | 0.55 |
| RW-2 | 06/02/11 | 1106109-03 | 0.009 | 0.0013 | 0.0069 | 0.013 |
| | | | | | | |
| RW-3 | 5/20/2008 | T22267-9 | 2.17 | 0.239 | 0.403 | 0.345 |
| RW-3 | 5/20/2009 | 9052216 | 0.834 | 0.0437 | 0.122 | 0.142 |

TABLE 4
HISTORICAL GROUNDWATER ANALYTICAL RESULTS
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal Mainline #3
Lea County, New Mexico

| Well Number | Sample Date | Sample ID | SW 846-8021B | | | |
|-------------|-------------|------------|----------------------------|----------------|---------------------|----------------------|
| | | | Benzene (mg/L) | Toluene (mg/L) | Ethylbenzene (mg/L) | Total Xylenes (mg/L) |
| | | | NMOCD Remediation Criteria | | | |
| | | | 0.01 | 0.75 | 0.75 | 0.62 |
| RW-3 | 5/12/2010 | 1005477-11 | 0.48 | 0.034 | 0.12 | 0.21 |
| RW-3 | 06/02/11 | 1106109-04 | 1.000 | 0.01 | 0.2000 | 0.280 |
| RW-4 | 5/12/2010 | 1005477-12 | 0.79 | 0.93 | 0.56 | 1.2 |
| RW-4 | 06/02/11 | 1106109-05 | 0.1700 | 0.22 | 0.27 | 0.630 |
| RW-5 | 5/12/2010 | 1005477-13 | 0.85 | 0.34 | 0.22 | 0.35 |
| RW-5 | 06/02/11 | 1106109-06 | 0.0280 | 0.01 | 0.04 | 0.044 |

< = Not Detected at the reporting limit.

U= Analyzed but not detected above the MDL.

J = Analyte detected below quantitation limit (Detected below MDL but above SDL.)

MDL = Method detection limit

SDL = Sample detection limit

Bold indicates that analyte concentration above NMOCD Remediation

^a = Results from run 2; DF - 5

* Values reported from Run #2 as carry over was reported in Run #1.

NMOCD - New Mexico Oil Conservation Division

TABLE 5
GROUNDWATER ANALYTICAL RESULTS FOR
POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs) FROM WELLS WITH PSH/SHEEN
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

| Monitoring Well | Sample Date | Lab Report # | Naphthalene | Acenaphthylene | Acenaphthene | Flourene | Indeno(1,2,3-cd)pyrene | Phenanthrene | Anthracene | Fluoranthene | Pyrene | Benzo[a]-anthracene | Chrysene | Benzo[b]-fluoranthene | Benzo[a]-pyrene | Dibenzofuran | Dibenz[a,h]-anthracene | Benzo[g,h,i]-perylene | Benzo[k]fluoranthene | 1-Methylnaphthalene | 2-Methylnaphthalene | Total methylnaphthalene | TPH-GRO (C6-C10) | TPH (C10-C28) | TPH (C28-C30) |
|--------------------------------------|-------------|--------------|-------------|----------------|--------------|----------|------------------------|--------------|------------|--------------|---------|---------------------|----------|-----------------------|-----------------|--------------|------------------------|-----------------------|----------------------|---------------------|---------------------|-------------------------|------------------|---------------|---------------|
| Units | | | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (µg/L) | (mg/L) | (mg/L) | (mg/L) |
| Other regulatory limits (Tap Water*) | | | *** | | 365 | 243 | 0.91 | 1100 | 1830 | 1460 | 183 | 0.91 | 29.1 | 0.91 | 0.7** | | 0.091 | | 9.1 | | | *** | | | |
| MW-1 | 5/20/2008 | T22301-1 | 150 | <16 | <15 | 35.5 J | <24 | 39.7 J | <18 | <16 | <11 | <14 | <13 | <15 | <16 | NA | <13 | <25 | <16 | NA | 28.5 | 28.5 | 41.5 | 137 | NA |
| MW-1 | 5/20/2009 | 9052216 | 26 | <0.0717 | <0.133 | 2.02 | <0.0812 | 2.68 | <0.0819 | <0.0892 | <0.0465 | <0.0307 | <0.0926 | <0.0640 | <0.0513 | 3.03 | <0.0566 | <0.0637 | <0.0776 | 24.4 | 20.1 | 44.5 | 6.82 | 17.8 | NA |
| MW-1 | 5/12/2010 | 1005477-01 | 42 | 0.56 | 1.2 | 2.1 | <0.2 | 4 | <0.2 | <0.2 | <0.2 | <0.2 | 0.5 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | 31 | 35 | 6.4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-2 | 12/7/2011 | 1112251-01 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | NA | NA | NA |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-3 | 12/7/2011 | 1112251-02 | 0.00023 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | NA | NA | NA |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| MW-8 | 12/7/2011 | 1112251-03 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | NA | NA | NA |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW-1 | 5/20/2008 | T22301-2 | 34.5 | <1.6 | <1.5 | 5.1 | <2.4 | 4.1 J | <1.8 | <1.6 | <1.1 | <1.4 | <1.3 | <1.5 | <1.6 | NA | <1.3 | <2.5 | <1.6 | NA | 37.1 | 37.1 | 15.6 | 9.76 | |
| RW-1 | 5/20/2009 | 9052216 | 205a | <0.756 | <1.40 | <0.560 | <0.856 | 68.3 | <0.863 | <0.940 | <0.490 | <0.323 | <0.975 | <0.674 | <0.541 | 51.9 | <0.596 | <0.671 | <0.818 | 425 | 449a | 874 | 2.22 | 60.8 | |
| RW-1 | 5/12/2010 | 1005477-09 | 24 | 0.43 | <0.2 | 2.3 | <0.2 | 4 | <0.2 | <0.2 | <0.2 | <0.2 | 0.49 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | 80 | 120 | 21 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW-2 | 5/20/2008 | T22301-3 | 4.8 J | <1.6 | <1.5 | <2.1 | <2.4 | <1.6 | <1.8 | <1.6 | <1.1 | <1.4 | <1.3 | <1.5 | <1.6 | NA | <1.3 | <2.5 | <1.6 | NA | 4.3 J | 4.3 J | 1.28 | 0.737 | |
| RW-2 | 5/20/2009 | 9052216 | 25.7 | <0.355 | <0.657 | <0.263 | <0.402 | 8.6 | <0.406 | <0.442 | <0.230 | <0.152 | <0.458 | <0.317 | <0.254 | 6.7 | <0.280 | <0.315 | <0.384 | 43.7 | 44.2 | 87.9 | 2.81 | 56.5 | |
| RW-2 | 5/12/2010 | 1005477-10 | 38 | <0.2 | 1.1 | 1.9 | <0.2 | 4.7 | 0.4 | <0.2 | <0.2 | <0.2 | 0.49 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | | 12 | 15 | 3.1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW-3 | 5/20/2008 | T22301-4 | 23.1 | <1.6 | <1.5 | <2.1 | <2.4 | <1.6 | <1.8 | <1.6 | <1.1 | <1.4 | <1.3 | <1.5 | <1.6 | NA | <1.3 | <2.5 | <1.6 | NA | 20.1 | 20.1 | 15.5 | 2.92 | |
| RW-3 | 5/20/2009 | 9052216 | 6.11 | <0.0703 | <0.130 | 0.63 | <0.0797 | 0.77 | <0.0803 | <0.0875 | <0.0456 | <0.0301 | <0.0908 | <0.0627 | <0.0503 | 0.877 | <0.0555 | <0.0624 | <0.0761 | 6.41 | 4.23 | 10.64 | 1.56 J | <0.876 | |
| RW-3 | 5/12/2010 | 1005477-11 | 15 | <0.2 | <0.2 | 0.89 | <0.2 | 1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | | 3.9 | 3.1 | <0.48 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW-4 | 5/12/2010 | 1005477-12 | 43 | <0.2 | 0.4 | 2.1 | <0.2 | 3.5 | <0.2 | <0.2 | <0.2 | <0.2 | 0.44 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | 40 | 48 | 7.8 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |
| RW-5 | 5/12/2010 | 1005477-13 | 9.6 | <0.2 | <0.2 | 0.74 | <0.2 | 0.86 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | NA | <0.2 | <0.2 | <0.2 | NA | NA | NA | 7.8 | 3.8 | <0.47 |
| | | | | | | | | | | | | | | | | | | | | | | | | | |

< = Not Detected
J = Analyte detected below quantitation limit (Detected below MDL but above SDL.)
MDL = Method detection limit
SDL = Sample detection limit
Tap Water* = NMED Tap Water Soil screening levels for residential scenarios.
*** = NM Water Quality Standard for PAHs is 30µg/L for total naphthalenes plus monomethylnaphthalenes (total methylnaphthalenes)
** = NM Water Quality Standard
Bold indicates that analyte concentration above NMOCD Remediation
^aEstimated concentration value greater than standard range.
^bEstimated concentration value greater than standard range.
NA - Not requested for analysis
NMED - New Mexico Environment Department
NMOCD - New Mexico Oil Conservation Division

TABLE 6
2011 MONTHLY PSH AND DISSOLVED PHASE GROUNDWATER RECOVERY DATA
Plains Marketing, L.P.
SRS #2003-00117
Vacuum to Jal 14" Mainline #3
Lea County, New Mexico

| Month | Volume of PSH recovered in gallons | Volume of dissolved phase groundwater recovered in gallons |
|--------------|---------------------------------------|--|
| January | 1.05 | 113.70 |
| February | 1.20 | 123.80 |
| March | 1.70 | 146.30 |
| April | 1.40 | 103.60 |
| May | 1.40 | 168.60 |
| June | 1.60 | 113.80 |
| July | 1.20 | 103.80 |
| August | 1.30 | 93.70 |
| September | 1.30 | 63.70 |
| October | 0.75 | 134.00 |
| November | 1.20 | 98.80 |
| December | 0.70 | 64.30 |
| Total | 14.80 | 1328.10 |

Appendix A

2011 Laboratory Analytical Reports

1st Quarter – Laboratory ID# 1102702

2nd Quarter – Laboratory ID# 1106118

3rd Quarter – Laboratory ID# 11081012

4th Quarter – Laboratory ID# 1111902

Chain of Custody Documentation



03-Mar-2011

Chan Patel
Premier Environmental Services
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (770) 973-7395

Re: Vacuum to Jal #3

Work Order: 1102702

Dear Chan,

ALS Environmental received 8 samples on 24-Feb-2011 08:50 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

JayLynn F Thibault

Electronically approved by: Glenda H. Ramos

JayLynn F Thibault
Project Manager



Certificate No: TX: T104704231-10-3

ADDRESS 10450 Standliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Work Order: 1102702

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 1102702-01 | MW2 | Water | | 2/23/2011 13:05 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-02 | MW3 | Water | | 2/23/2011 13:20 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-03 | MW4 | Water | | 2/23/2011 12:55 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-04 | MW5 | Water | | 2/23/2011 13:25 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-05 | MW6 | Water | | 2/23/2011 13:00 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-06 | MW7 | Water | | 2/23/2011 13:10 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-07 | MW8 | Water | | 2/23/2011 13:15 | 2/24/2011 08:50 | <input type="checkbox"/> |
| 1102702-08 | Trip Blank | Water | | 2/23/2011 | 2/24/2011 08:50 | <input type="checkbox"/> |

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Project: Vacuum to Jal #3
Work Order: 1102702

Case Narrative

Batch R106038 BTEX (Sample 1102702-04)MS/MSD Recovery outside control limits on Ethylbenzene. RPD ok.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW2

Lab ID: 1102702-01

Collection Date: 2/23/2011 01:05 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|---------------|------|-----------------|-------------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 09:57 AM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 09:57 AM |
| Ethylbenzene | 0.0060 | | 0.0010 | mg/L | 1 | 3/1/2011 09:57 AM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 3/1/2011 09:57 AM |
| Surr: 4-Bromofluorobenzene | 108 | | 77-129 | %REC | 1 | 3/1/2011 09:57 AM |
| Surr: Trifluorotoluene | 99.4 | | 75-130 | %REC | 1 | 3/1/2011 09:57 AM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW3

Lab ID: 1102702-02

Collection Date: 2/23/2011 01:20 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | 0.0029 | | 0.0010 | mg/L | 1 | 3/1/2011 12:39 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 12:39 PM |
| Ethylbenzene | 0.0059 | | 0.0010 | mg/L | 1 | 3/1/2011 12:39 PM |
| Xylenes, Total | 0.0047 | | 0.0030 | mg/L | 1 | 3/1/2011 12:39 PM |
| Surr: 4-Bromofluorobenzene | 115 | | 77-129 | %REC | 1 | 3/1/2011 12:39 PM |
| Surr: Trifluorotoluene | 101 | | 75-130 | %REC | 1 | 3/1/2011 12:39 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW4

Lab ID: 1102702-03

Collection Date: 2/23/2011 12:55 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 12:57 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 12:57 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 12:57 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 3/1/2011 12:57 PM |
| Surr: 4-Bromofluorobenzene | 103 | | 77-129 | %REC | 1 | 3/1/2011 12:57 PM |
| Surr: Trifluorotoluene | 99.9 | | 75-130 | %REC | 1 | 3/1/2011 12:57 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW5

Lab ID: 1102702-04

Collection Date: 2/23/2011 01:25 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 11:10 AM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 11:10 AM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 11:10 AM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 3/1/2011 11:10 AM |
| Surr: 4-Bromofluorobenzene | 106 | | 77-129 | %REC | 1 | 3/1/2011 11:10 AM |
| Surr: Trifluorotoluene | 100 | | 75-130 | %REC | 1 | 3/1/2011 11:10 AM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW6

Lab ID: 1102702-05

Collection Date: 2/23/2011 01:00 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:14 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:14 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:14 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 3/1/2011 01:14 PM |
| Surr: 4-Bromofluorobenzene | 103 | | 77-129 | %REC | 1 | 3/1/2011 01:14 PM |
| Surr: Trifluorotoluene | 100 | | 75-130 | %REC | 1 | 3/1/2011 01:14 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW7

Lab ID: 1102702-06

Collection Date: 2/23/2011 01:10 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:31 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:31 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:31 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 3/1/2011 01:31 PM |
| Surr: 4-Bromofluorobenzene | 103 | | 77-129 | %REC | 1 | 3/1/2011 01:31 PM |
| Surr: Trifluorotoluene | 100 | | 75-130 | %REC | 1 | 3/1/2011 01:31 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1102702

Sample ID: MW8

Lab ID: 1102702-07

Collection Date: 2/23/2011 01:15 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:49 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:49 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 3/1/2011 01:49 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 3/1/2011 01:49 PM |
| Surr: 4-Bromofluorobenzene | 106 | | 77-129 | %REC | 1 | 3/1/2011 01:49 PM |
| Surr: Trifluorotoluene | 101 | | 75-130 | %REC | 1 | 3/1/2011 01:49 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 03-Mar-11

Client: Premier Environmental Services
Work Order: 1102702
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R106038** Instrument ID **BTEX1** Method: **SW8021B**

| | | | | | | | | | | |
|----------------------------|----------------------------------|-----|---------|---------------|----------------|---------------|----------------------------------|------|-----------|------|
| MBLK | Sample ID: BBLKW3-022811-R106038 | | | | Units: µg/L | | Analysis Date: 3/1/2011 06:30 AM | | | |
| Client ID: | Run ID: BTEX1_110228D | | | | SeqNo: 2294082 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 3.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 30.79 | 1.0 | 30 | 0 | 103 | 77-129 | | 0 | | |
| Surr: Trifluorotoluene | 30.23 | 1.0 | 30 | 0 | 101 | 75-130 | | 0 | | |

| | | | | | | | | | | |
|----------------------------|----------------------------------|-----|---------|---------------|----------------|---------------|---------------|----------------------------------|-----------|------|
| LCS | Sample ID: BLCSW3-022811-R106038 | | | | | Units: µg/L | | Analysis Date: 3/1/2011 05:55 AM | | |
| Client ID: | Run ID: BTEX1_110228D | | | | SeqNo: 2294081 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 20.2 | 1.0 | 20 | 0 | 101 | 77-126 | 0 | | | |
| Toluene | 20.6 | 1.0 | 20 | 0 | 103 | 80-124 | 0 | | | |
| Ethylbenzene | 20.96 | 1.0 | 20 | 0 | 105 | 76-125 | 0 | | | |
| Xylenes, Total | 61.48 | 3.0 | 60 | 0 | 102 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 32.13 | 1.0 | 30 | 0 | 107 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 30.68 | 1.0 | 30 | 0 | 102 | 75-130 | 0 | | | |

| | | | | | | | | | | |
|----------------------------|--------------------------|-----------------------|---------|---------------|----------------|---------------|----------------------------------|------|-----------|------|
| MS | Sample ID: 1102702-04AMS | | | | Units: µg/L | | Analysis Date: 3/1/2011 11:27 AM | | | |
| Client ID: MW5 | | Run ID: BTEX1_110228D | | | SeqNo: 2294099 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 24.23 | 1.0 | 20 | 0 | 121 | 77-126 | 0 | | | |
| Toluene | 24.77 | 1.0 | 20 | 0 | 124 | 80-124 | 0 | | | |
| Ethylbenzene | 25.14 | 1.0 | 20 | 0 | 126 | 76-125 | 0 | | | S |
| Xylenes, Total | 72.97 | 3.0 | 60 | 0 | 122 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 33.27 | 1.0 | 30 | 0 | 111 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 31.21 | 1.0 | 30 | 0 | 104 | 75-130 | 0 | | | |

| | | | | | | | | | | |
|----------------------------|---------------------------|-----------------------|---------|---------------|----------------|---------------|----------------------------------|--------|-----------|------|
| MSD | Sample ID: 1102702-04AMSD | | | | Units: µg/L | | Analysis Date: 3/1/2011 11:45 AM | | | |
| Client ID: MW5 | | Run ID: BTEX1_110228D | | | SeqNo: 2294100 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 23.68 | 1.0 | 20 | 0 | 118 | 77-126 | 24.23 | 2.27 | 20 | |
| Toluene | 24.76 | 1.0 | 20 | 0 | 124 | 80-124 | 24.77 | 0.0257 | 20 | |
| Ethylbenzene | 25.18 | 1.0 | 20 | 0 | 126 | 76-125 | 25.14 | 0.164 | 20 | S |
| Xylenes, Total | 73.08 | 3.0 | 60 | 0 | 122 | 79-124 | 72.97 | 0.162 | 20 | |
| Surr: 4-Bromofluorobenzene | 33.49 | 1.0 | 30 | 0 | 112 | 77-129 | 33.27 | 0.651 | 20 | |
| Surr: Trifluorotoluene | 31.34 | 1.0 | 30 | 0 | 104 | 75-130 | 31.21 | 0.422 | 20 | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Work Order: 1102702
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R106038** Instrument ID **BTEX1** Method: **SW8021B**

The following samples were analyzed in this batch:

| | | |
|-------------|-------------|-------------|
| 1102702-01A | 1102702-02A | 1102702-03A |
| 1102702-04A | 1102702-05A | 1102702-06A |
| 1102702-07A | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Project: Vacuum to Jal #3
WorkOrder: 1102702

QUALIFIERS, ACRONYMS, UNITS

| Qualifier | Description |
|------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| Acronym | Description |
|----------------|-------------------------------------|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitation Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| Units Reported | Description |
|-----------------------|----------------------|
| mg/L | Milligrams per Liter |



☐ **ALS Laboratory Group**
 10450 Stancliff Rd., Suite 210
 Houston, Texas 77099
 Tel. +1 281 530 5656
 Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

☐ **ALS Laboratory Group**
 3352 128th Ave.
 Holland, MI 49424-9263
 Tel: +1 616 399 6070
 Fax: +1 616 399 6185

| Customer Information | | Project Information | | ALS Project Manager: _____ ALS Work Order #: <u>110 2702</u> | | | | | | | | | | | | | |
|--|--------------------------------|---------------------|---------------------------|--|-------------|-----------|---|-------------------|---|---|---|---|---|---|---|---|------|
| Parameter/Method Request for Analysis | | | | | | | | | | | | | | | | | |
| Purchase Order | | Project Name | Vacuum to Jal #3 | A | BTEX (8021) | | | | | | | | | | | | |
| Work Order | | Project Number | <u>205068</u> | B | | | | | | | | | | | | | |
| Company Name | Premier Environmental Services | Bill To Company | Plains All America, LP | C | | | | | | | | | | | | | |
| Send Report To | Chan Patel | Invoice Attn | | D | | | | | | | | | | | | | |
| Address | 4800 Sugar Grove Blvd. | Address | c/o ENV. Accounts Payable | E | | | | | | | | | | | | | |
| | Suite 390 | | P.O. Box 4648 | F | | | | | | | | | | | | | |
| City/State/Zip | Houston, TX 77477 | City/State/Zip | Houston, TX 77210-4648 | G | | | | | | | | | | | | | |
| Phone | (281) 240-5200 | Phone | (713) 646-4610 | H | | | | | | | | | | | | | |
| Fax | (281) 240-5201 | Fax | (713) 646-4199 | I | | | | | | | | | | | | | |
| e-Mail Address | | e-Mail Address | | J | | | | | | | | | | | | | |
| no. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
| 1 | MW 2 | 2-23 | 1305 | W | HCl | 3 | X | | | | | | | | | | |
| 2 | MW 3 | | 1320 | | | | | | | | | | | | | | |
| 3 | MW 4 | | 1255 | | | | | | | | | | | | | | |
| 4 | MW 5 | | 1325 | | | | | | | | | | | | | | |
| 5 | MW 6 | | 1300 | | | | | | | | | | | | | | |
| 6 | MW 7 | | 1310 | | | | | | | | | | | | | | |
| 7 | MW 8 | ↓ | 1315 | ↓ | ↓ | ↓ | ↓ | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| Sampler(s) Please Print & Sign | | Shipment Method | | Required Turnaround Time: (Check Box) | | | | Results Due Date: | | | | | | | | | |
| SHANIE DILLER | | FED EX | | <input type="checkbox"/> Std. 10 WK. Days <input checked="" type="checkbox"/> 5 WK. Days <input type="checkbox"/> 2 WK. Days <input type="checkbox"/> 24 Hour | | | | | | | | | | | | | |
| Relinquished by: | Date: | Time: | Received by: | Notes: 5 Day TAT. | | | | | | | | | | | | | |
| Relinquished by: | Date: | Time: | Received by (Laboratory): | Cooler ID: _____ Cooler Temp: _____ | | | | | | | | | | | | | |
| Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory): | QC Package: (Check One Box Below) | | | | | | | | | | | | | |
| Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035 | | | | <input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Check List <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other / EDD | | | | | | | | | | | | | |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Laboratory Group.
 2. Unless otherwise agreed in a formal contract, services provided by ALS Laboratory Group are expressly limited to the terms and conditions stated on the reverse.
 3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Environmental

Sample Receipt Checklist

Client Name: **PREMIER ENV**

Date/Time Received: **24-Feb-11 08:50**

Work Order: **1102702**

Received by: **SAY**

Checklist completed by Salvador A. Yanez

24-Feb-11

Reviewed by:

eSignature

Date

eSignature

Date

Matrices: **Water**

Carrier name: **FedEx**

Shipping container/cooler in good condition?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on shipping container/cooler?

Yes ☒

No ☐

Not Present ☐

Custody seals intact on sample bottles?

Yes ☐

No ☐

Not Present ☒

Chain of custody present?

Yes ☒

No ☐

Chain of custody signed when relinquished and received?

Yes ☒

No ☐

Chain of custody agrees with sample labels?

Yes ☒

No ☐

Samples in proper container/bottle?

Yes ☒

No ☐

Sample containers intact?

Yes ☒

No ☐

Sufficient sample volume for indicated test?

Yes ☒

No ☐

All samples received within holding time?

Yes ☒

No ☐

Container/Temp Blank temperature in compliance?

Yes ☒

No ☐

Temperature(s)/Thermometer(s):

1.6c

002

Cooler(s)/Kit(s):

3803

Water - VOA vials have zero headspace?

Yes ☒

No ☐

No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

Login Notes: Trip Blank not on COC, Login w/ out Analysis.

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

1102707



ALS Environmental

10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

CUSTODY SEAL

Date: 2-23-11 Time: 11:31
Name: Dept. 10
Company: Perkins

FEB 23 11
OVERNIGHT

77099
77099

Seal Broken By:

X-US

This portion can be removed for Recipient's records.

to ALS FedEx Tracking Number 874763320431

Order's me ALS Phone 281 530 5656

Company ALS

Address 10450 Stancliff Rd., Suite 210

State TX ZIP 77099

Internal Billing Reference



08-Jun-2011

Chan Patel
Premier Environmental Services
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (770) 973-7395

Re: Vacuum to Jal #3

Work Order: 1106118

Dear Chan,

ALS Environmental received 8 samples on 03-Jun-2011 09:00 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 16.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Makenzie L. Henderson

Patricia L. Lynch
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Stanchitt Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 630-6656 | FAX (281) 630-6687

NOTES: PLEASE PRINT OR TYPE NAME AND ADDRESS OF CLIENT ON THIS FORM AND RETURN TO ALS ENVIRONMENTAL



RIGHT SOLUTIONS. RIGHT PARTNER.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services**Project:** Vacuum to Jal #3**Work Order:** 1106118**Work Order Sample Summary**

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 1106118-01 | MW2 | Water | | 6/2/2011 11:50 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-02 | MW3 | Water | | 6/2/2011 11:15 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-03 | MW4 | Water | | 6/2/2011 14:05 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-04 | MW5 | Water | | 6/2/2011 14:15 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-05 | MW6 | Water | | 6/2/2011 14:10 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-06 | MW7 | Water | | 6/2/2011 10:50 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-07 | MW8 | Water | | 6/2/2011 14:20 | 6/3/2011 09:00 | <input type="checkbox"/> |
| 1106118-08 | Trip Blank | Water | | 6/2/2011 | 6/3/2011 09:00 | <input type="checkbox"/> |

ALS Environmental

Date: 10-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Case Narrative

No Exceptions.

ALS Environmental**Date:** 08-Jun-11**Client:** Premier Environmental Services**Project:** Vacuum to Jal #3**Work Order:** 1106118**Sample ID:** MW2**Lab ID:** 1106118-01**Collection Date:** 6/2/2011 11:50 AM**Matrix:** WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|---------------|------|-----------------|-------------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 12:26 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 12:26 PM |
| Ethylbenzene | 0.0090 | | 0.0010 | mg/L | 1 | 6/7/2011 12:26 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 6/7/2011 12:26 PM |
| Surr: 4-Bromofluorobenzene | 93.2 | | 77-129 | %REC | 1 | 6/7/2011 12:26 PM |
| Surr: Trifluorotoluene | 106 | | 75-130 | %REC | 1 | 6/7/2011 12:26 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW3

Lab ID: 1106118-02

Collection Date: 6/2/2011 11:15 AM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | 0.013 | | 0.0010 | mg/L | 1 | 6/7/2011 12:44 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 12:44 PM |
| Ethylbenzene | 0.015 | | 0.0010 | mg/L | 1 | 6/7/2011 12:44 PM |
| Xylenes, Total | 0.015 | | 0.0030 | mg/L | 1 | 6/7/2011 12:44 PM |
| Surr: 4-Bromofluorobenzene | 86.4 | | 77-129 | %REC | 1 | 6/7/2011 12:44 PM |
| Surr: Trifluorotoluene | 109 | | 75-130 | %REC | 1 | 6/7/2011 12:44 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental**Date:** 08-Jun-11**Client:** Premier Environmental Services**Project:** Vacuum to Jal #3**Work Order:** 1106118**Sample ID:** MW4**Lab ID:** 1106118-03**Collection Date:** 6/2/2011 02:05 PM**Matrix:** WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:02 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:02 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:02 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 6/7/2011 01:02 PM |
| Surr: 4-Bromofluorobenzene | 90.7 | | 77-129 | %REC | 1 | 6/7/2011 01:02 PM |
| Surr: Trifluorotoluene | 108 | | 75-130 | %REC | 1 | 6/7/2011 01:02 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW5

Lab ID: 1106118-04

Collection Date: 6/2/2011 02:15 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:27 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:27 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:27 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 6/7/2011 01:27 PM |
| Surr: 4-Bromofluorobenzene | 93.0 | | 77-129 | %REC | 1 | 6/7/2011 01:27 PM |
| Surr: Trifluorotoluene | 107 | | 75-130 | %REC | 1 | 6/7/2011 01:27 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental**Date:** 08-Jun-11**Client:** Premier Environmental Services**Project:** Vacuum to Jal #3**Work Order:** 1106118**Sample ID:** MW6**Lab ID:** 1106118-05**Collection Date:** 6/2/2011 02:10 PM**Matrix:** WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:45 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:45 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 01:45 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 6/7/2011 01:45 PM |
| Surr: 4-Bromofluorobenzene | 89.5 | | 77-129 | %REC | 1 | 6/7/2011 01:45 PM |
| Surr: Trifluorotoluene | 105 | | 75-130 | %REC | 1 | 6/7/2011 01:45 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services

Project: Vacuum to Jal #3

Work Order: 1106118

Sample ID: MW7

Lab ID: 1106118-06

Collection Date: 6/2/2011 10:50 AM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 02:08 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 02:08 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 02:08 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 6/7/2011 02:08 PM |
| Surr: 4-Bromofluorobenzene | 93.5 | | 77-129 | %REC | 1 | 6/7/2011 02:08 PM |
| Surr: Trifluorotoluene | 105 | | 75-130 | %REC | 1 | 6/7/2011 02:08 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental**Date:** 08-Jun-11**Client:** Premier Environmental Services**Project:** Vacuum to Jal #3**Work Order:** 1106118**Sample ID:** MW8**Lab ID:** 1106118-07**Collection Date:** 6/2/2011 02:20 PM**Matrix:** WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: KKP |
| Benzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 02:27 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 02:27 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 6/7/2011 02:27 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 6/7/2011 02:27 PM |
| Surr: 4-Bromofluorobenzene | 86.8 | | 77-129 | %REC | 1 | 6/7/2011 02:27 PM |
| Surr: Trifluorotoluene | 105 | | 75-130 | %REC | 1 | 6/7/2011 02:27 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 08-Jun-11

Client: Premier Environmental Services
Work Order: 1106118
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R111018** Instrument ID **BTEX1** Method: **SW8021B**

| | | | | | | | | | | |
|----------------------------|----------------------------------|-----|---------|---------------|----------------|---------------|----------------------------------|------|-----------|------|
| MBLK | Sample ID: BBLKW1-060711-R111018 | | | | Units: µg/L | | Analysis Date: 6/7/2011 11:25 AM | | | |
| Client ID: | Run ID: BTEX1_110607A | | | | SeqNo: 2415501 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 3.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 26.18 | 1.0 | 30 | 0 | 87.3 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 31.85 | 1.0 | 30 | 0 | 106 | 75-130 | 0 | | | |

| | | | | | | | | | | |
|----------------------------|----------------------------------|-----|---------|---------------|----------------|---------------|---------------|----------------------------------|-----------|------|
| LCS | Sample ID: BLCSW1-060711-R111018 | | | | | Units: µg/L | | Analysis Date: 6/7/2011 11:43 AM | | |
| Client ID: | Run ID: BTEX1_110607A | | | | SeqNo: 2415502 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 17.39 | 1.0 | 20 | 0 | 86.9 | 77-126 | 0 | | | |
| Toluene | 17.59 | 1.0 | 20 | 0 | 87.9 | 80-124 | 0 | | | |
| Ethylbenzene | 18.23 | 1.0 | 20 | 0 | 91.1 | 76-125 | 0 | | | |
| Xylenes, Total | 54.25 | 3.0 | 60 | 0 | 90.4 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 28.73 | 1.0 | 30 | 0 | 95.8 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 32.36 | 1.0 | 30 | 0 | 108 | 75-130 | 0 | | | |

| | | | | | | | | | | |
|----------------------------|--------------------------|-----|---------|---------------|----------------|---------------|----------------------------------|------|-----------|------|
| MS | Sample ID: 1106200-01AMS | | | | Units: µg/L | | Analysis Date: 6/7/2011 05:35 PM | | | |
| Client ID: | Run ID: BTEX1_110607A | | | | SeqNo: 2415517 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 20.23 | 1.0 | 20 | 0.8943 | 96.7 | 77-126 | 0 | | | |
| Toluene | 24.43 | 1.0 | 20 | 5.062 | 96.9 | 80-124 | 0 | | | |
| Ethylbenzene | 21.46 | 1.0 | 20 | 1.04 | 102 | 76-125 | 0 | | | |
| Xylenes, Total | 70.59 | 3.0 | 60 | 11.63 | 98.3 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 28.86 | 1.0 | 30 | 0 | 96.2 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 32.57 | 1.0 | 30 | 0 | 109 | 75-130 | 0 | | | |

| | | | | | | | | | | |
|----------------------------|---------------------------|-----|---------|---------------|----------------|---------------|----------------------------------|-------|-----------|------|
| MSD | Sample ID: 1106200-01AMSD | | | | Units: µg/L | | Analysis Date: 6/7/2011 05:53 PM | | | |
| Client ID: | Run ID: BTEX1_110607A | | | | SeqNo: 2415518 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 21.05 | 1.0 | 20 | 0.8943 | 101 | 77-126 | 20.23 | 3.98 | 20 | |
| Toluene | 25.5 | 1.0 | 20 | 5.062 | 102 | 80-124 | 24.43 | 4.26 | 20 | |
| Ethylbenzene | 22.5 | 1.0 | 20 | 1.04 | 107 | 76-125 | 21.46 | 4.75 | 20 | |
| Xylenes, Total | 73.98 | 3.0 | 60 | 11.63 | 104 | 79-124 | 70.59 | 4.69 | 20 | |
| Surr: 4-Bromofluorobenzene | 30.39 | 1.0 | 30 | 0 | 101 | 77-129 | 28.86 | 5.16 | 20 | |
| Surr: Trifluorotoluene | 32.52 | 1.0 | 30 | 0 | 108 | 75-130 | 32.57 | 0.153 | 20 | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Work Order: 1106118
Project: Vacuum to Jal #3

QC BATCH REPORT

Batch ID: **R111018** Instrument ID **BTEX1** Method: **SW8021B**

The following samples were analyzed in this batch:

| | | |
|-------------|-------------|-------------|
| 1106118-01A | 1106118-02A | 1106118-03A |
| 1106118-04A | 1106118-05A | 1106118-06A |
| 1106118-07A | 1106118-08A | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Premier Environmental Services
Project: Vacuum to Jal #3
WorkOrder: 1106118

QUALIFIERS, ACRONYMS, UNITS

| <u>Qualifier</u> | <u>Description</u> |
|-------------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|-----------------------|-------------------------------------|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitation Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| <u>Units Reported</u> | <u>Description</u> |
|------------------------------|---------------------------|
| mg/L | Milligrams per Liter |



ALS Environmental
10450 Standcliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

COC ID: 33466

1106118

PREMIER ENV: Premier Environmental Services

Project: Vacuum to Jal #3



ALS Project Manager:

| Customer Information | | Project Information | |
|----------------------|--------------------------------|---------------------|---------------------------|
| Purchase Order | | Project Name | Vacuum to Jal #3 |
| Work Order | | Project Number | |
| Company Name | Premier Environmental Services | Bill To Company | Plains All America, LP |
| Send Report To | Oran Patel | Invoice Attn | |
| Address | 4600 Sugar Grove Blvd. | Address | c/o ENV. Accounts Payable |
| | Suite 390 | | P.O. Box 4648 |
| City/State/Zip | Houston, TX 77477 | City/State/Zip | Houston, TX 77210-4648 |
| Phone | (281) 240-5200 | Phone | (713) 646-4610 |
| Fax | (281) 240-5201 | Fax | (713) 646-4199 |
| e-Mail Address | | e-Mail Address | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|--------------------|------|------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | MW 2 | 6-2 | 1150 | L | HCL | 3 | X | | | | | | | | | | |
| 2 | MW 3 | | 1115 | | | | | | | | | | | | | | |
| 3 | MW 4 | | 1405 | | | | | | | | | | | | | | |
| 4 | MW 5 | | 1415 | | | | | | | | | | | | | | |
| 5 | MW 6 | | 1410 | | | | | | | | | | | | | | |
| 6 | MW 7 | | 1050 | | | | | | | | | | | | | | |
| 7 | MW 8 | 6-2 | 1420 | L | HCL | 3 | X | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|--|-----------|---------------------------|---------------------------|---|--------------|---|--|-------------------|--|--|--|--|--|--|--|--|--|
| Sampler(s) Please Print & Sign <i>Shane Diller</i> | | Shipment Method Fed Ex | | Required Turnaround Time: (Check Box) <input type="checkbox"/> Std 10 WK Days <input checked="" type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour | | | | Results Due Date: | | | | | | | | | |
| Relinquished by: | Date: 6-2 | Time: 1730 | Received by: | Notes: 5 Day TAT. | | | | | | | | | | | | | |
| Relinquished by: | Date: | Time: | Received by (Laboratory): | Cooler ID | Cooler Temp. | QC Package: (Check One Box Below) | | | | | | | | | | | |
| Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory): | 1613 | | <input checked="" type="checkbox"/> Level II Std QC | <input type="checkbox"/> TRRP Check List | | | | | | | | | | |
| | | | | | | <input type="checkbox"/> Level III Std QC/Raw Data | <input type="checkbox"/> TRRP Level IV | | | | | | | | | | |
| | | | | | | <input type="checkbox"/> Level IV SW846/CLP | | | | | | | | | | | |
| | | | | | | <input type="checkbox"/> Other / EDD | | | | | | | | | | | |
| Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035 | | | | | | | | | | | | | | | | | |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

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ALS Environmental

Sample Receipt Checklist

Client Name: **PREMIER ENV**

Date/Time Received: **03-Jun-11 09:00**

Work Order: **1106118**

Received by: **PMG**

Checklist completed by Robert D. Harris
eSignature

03-Jun-11

Date

Reviewed by: Patricia L. Lynch
eSignature

06-Jun-11

Date

Matrices: **waters**

Carrier name: **FedEx**

| | | | |
|---|---|-----------------------------|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

Temperature(s)/Thermometer(s):

1.3c

002

Cooler(s)/Kit(s):

1673

Water - VOA vials have zero headspace?

Yes ☒

No ☐

No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐

No ☐

N/A ☒

pH adjusted?

Yes ☐

No ☐

N/A ☒

pH adjusted by:

Login Notes: Trip blank not on COC; logged in without analysis.

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



07-Sep-2011

Chan Patel
EarthCon Consultants, Inc.
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (770) 973-7395

Re: Vac to Jal Mainline #3

Work Order: 11081012

Dear Chan,

ALS Environmental received 8 samples on 31-Aug-2011 09:05 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 15.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Makenzie L. Henderson

Patricia L. Lynch
Project Manager



Certificate No: T104704231-09A-TX

ADDRESS 10450 Standliff Rd, Suite 210 Houston, Texas 77099-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887

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RIGHT SOLUTIONS. RIGHT PARTNER.

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Work Order: 11081012

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 11081012-01 | MW2 | Water | | 8/30/2011 15:20 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-02 | MW3 | Water | | 8/30/2011 15:25 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-03 | MW4 | Water | | 8/30/2011 15:30 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-04 | MW5 | Water | | 8/30/2011 15:35 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-05 | MW6 | Water | | 8/30/2011 15:40 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-06 | MW7 | Water | | 8/30/2011 15:45 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-07 | MW8 | Water | | 8/30/2011 15:50 | 8/31/2011 09:05 | <input type="checkbox"/> |
| 11081012-08 | Trip Blank | Water | | 8/30/2011 | 8/31/2011 09:05 | <input type="checkbox"/> |

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 11081012

Sample ID: MW2

Lab ID: 11081012-01

Collection Date: 8/30/2011 03:20 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|---------------|------|-----------------|-------------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 10:18 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 10:18 PM |
| Ethylbenzene | 0.0061 | | 0.0010 | mg/L | 1 | 9/6/2011 10:18 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 9/6/2011 10:18 PM |
| Surr: 4-Bromofluorobenzene | 93.3 | | 77-129 | %REC | 1 | 9/6/2011 10:18 PM |
| Surr: Trifluorotoluene | 113 | | 75-130 | %REC | 1 | 9/6/2011 10:18 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental**Date:** 07-Sep-11**Client:** EarthCon Consultants, Inc.**Project:** Vac to Jal Mainline #3**Work Order:** 11081012**Sample ID:** MW3**Lab ID:** 11081012-02**Collection Date:** 8/30/2011 03:25 PM**Matrix:** WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|---------------|------|----------------|-------------|-----------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | 0.0016 | | 0.0010 | mg/L | 1 | 9/6/2011 10:36 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 10:36 PM |
| Ethylbenzene | 0.0054 | | 0.0010 | mg/L | 1 | 9/6/2011 10:36 PM |
| Xylenes, Total | 0.0071 | | 0.0030 | mg/L | 1 | 9/6/2011 10:36 PM |
| Surr: 4-Bromofluorobenzene | 90.9 | | 77-129 | %REC | 1 | 9/6/2011 10:36 PM |
| Surr: Trifluorotoluene | 111 | | 75-130 | %REC | 1 | 9/6/2011 10:36 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 11081012

Sample ID: MW4

Lab ID: 11081012-03

Collection Date: 8/30/2011 03:30 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 10:53 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 10:53 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 10:53 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 9/6/2011 10:53 PM |
| Surr: 4-Bromofluorobenzene | 87.9 | | 77-129 | %REC | 1 | 9/6/2011 10:53 PM |
| Surr: Trifluorotoluene | 109 | | 75-130 | %REC | 1 | 9/6/2011 10:53 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental**Date:** 07-Sep-11**Client:** EarthCon Consultants, Inc.**Project:** Vac to Jal Mainline #3**Work Order:** 11081012**Sample ID:** MW5**Lab ID:** 11081012-04**Collection Date:** 8/30/2011 03:35 PM**Matrix:** WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:11 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:11 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:11 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 9/6/2011 11:11 PM |
| Surr: 4-Bromofluorobenzene | 90.3 | | 77-129 | %REC | 1 | 9/6/2011 11:11 PM |
| Surr: Trifluorotoluene | 111 | | 75-130 | %REC | 1 | 9/6/2011 11:11 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 11081012

Sample ID: MW6

Lab ID: 11081012-05

Collection Date: 8/30/2011 03:40 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:28 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:28 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:28 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 9/6/2011 11:28 PM |
| Surr: 4-Bromofluorobenzene | 90.2 | | 77-129 | %REC | 1 | 9/6/2011 11:28 PM |
| Surr: Trifluorotoluene | 114 | | 75-130 | %REC | 1 | 9/6/2011 11:28 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Sample ID: MW7

Collection Date: 8/30/2011 03:45 PM

Work Order: 11081012

Lab ID: 11081012-06

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:45 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:45 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 9/6/2011 11:45 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 9/6/2011 11:45 PM |
| Surr: 4-Bromofluorobenzene | 87.4 | | 77-129 | %REC | 1 | 9/6/2011 11:45 PM |
| Surr: Trifluorotoluene | 110 | | 75-130 | %REC | 1 | 9/6/2011 11:45 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 11081012

Sample ID: MW8

Lab ID: 11081012-07

Collection Date: 8/30/2011 03:50 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|-------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | 0.0020 | | 0.0010 | mg/L | 1 | 9/7/2011 12:03 AM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 9/7/2011 12:03 AM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 9/7/2011 12:03 AM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 9/7/2011 12:03 AM |
| Surr: 4-Bromofluorobenzene | 89.0 | | 77-129 | %REC | 1 | 9/7/2011 12:03 AM |
| Surr: Trifluorotoluene | 112 | | 75-130 | %REC | 1 | 9/7/2011 12:03 AM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 07-Sep-11

Client: EarthCon Consultants, Inc.

Work Order: 11081012

Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: R115716 Instrument ID BTEX3 Method: SW8021B

MBLK Sample ID: BBLKW2-090611-R115716 Units: µg/L Analysis Date: 9/6/2011 10:01 PM

Client ID: Run ID: BTEX3_110906D SeqNo: 2517232 Prep Date: DF: 1

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 3.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 27.3 | 1.0 | 30 | 0 | 91 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 34.19 | 1.0 | 30 | 0 | 114 | 75-130 | 0 | | | |

LCS Sample ID: BLCSW2-110906-R115716 Units: µg/L Analysis Date: 9/7/2011 10:12 AM

Client ID: Run ID: BTEX3_110906D SeqNo: 2517252 Prep Date: DF: 1

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Benzene | 19.11 | 1.0 | 20 | 0 | 95.5 | 77-126 | 0 | | | |
| Toluene | 19.59 | 1.0 | 20 | 0 | 98 | 80-124 | 0 | | | |
| Ethylbenzene | 18.87 | 1.0 | 20 | 0 | 94.3 | 76-125 | 0 | | | |
| Xylenes, Total | 56.18 | 3.0 | 60 | 0 | 93.6 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 27.45 | 1.0 | 30 | 0 | 91.5 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 34.74 | 1.0 | 30 | 0 | 116 | 75-130 | 0 | | | |

MS Sample ID: 1109060-01AMS Units: µg/L Analysis Date: 9/7/2011 01:47 AM

Client ID: Run ID: BTEX3_110906D SeqNo: 2517249 Prep Date: DF: 1

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Benzene | 20.5 | 1.0 | 20 | 0 | 103 | 77-126 | 0 | | | |
| Toluene | 20.91 | 1.0 | 20 | 0 | 105 | 80-124 | 0 | | | |
| Ethylbenzene | 20.44 | 1.0 | 20 | 0 | 102 | 76-125 | 0 | | | |
| Xylenes, Total | 61.35 | 3.0 | 60 | 0 | 102 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 28.23 | 1.0 | 30 | 0 | 94.1 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 34.64 | 1.0 | 30 | 0 | 115 | 75-130 | 0 | | | |

MSD Sample ID: 1109060-01AMSD Units: µg/L Analysis Date: 9/7/2011 02:04 AM

Client ID: Run ID: BTEX3_110906D SeqNo: 2517250 Prep Date: DF: 1

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|-------|-----------|------|
| Benzene | 20.66 | 1.0 | 20 | 0 | 103 | 77-126 | 20.5 | 0.769 | 20 | |
| Toluene | 21.6 | 1.0 | 20 | 0 | 108 | 80-124 | 20.91 | 3.24 | 20 | |
| Ethylbenzene | 21.51 | 1.0 | 20 | 0 | 108 | 76-125 | 20.44 | 5.13 | 20 | |
| Xylenes, Total | 63.51 | 3.0 | 60 | 0 | 106 | 79-124 | 61.35 | 3.46 | 20 | |
| Surr: 4-Bromofluorobenzene | 28.47 | 1.0 | 30 | 0 | 94.9 | 77-129 | 28.23 | 0.847 | 20 | |
| Surr: Trifluorotoluene | 35.75 | 1.0 | 30 | 0 | 119 | 75-130 | 34.64 | 3.16 | 20 | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Work Order: 11081012
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R115716** Instrument ID **BTEX3** Method: **SW8021B**

The following samples were analyzed in this batch:

| | | |
|--------------|--------------|--------------|
| 11081012-01A | 11081012-02A | 11081012-03A |
| 11081012-04A | 11081012-05A | 11081012-06A |
| 11081012-07A | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
WorkOrder: 11081012

QUALIFIERS, ACRONYMS, UNITS

| <u>Qualifier</u> | <u>Description</u> |
|------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|----------------|-------------------------------------|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitation Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| <u>Units Reported</u> | <u>Description</u> |
|-----------------------|----------------------|
| mg/L | Milligrams per Liter |



☐ **ALS Environmental**
10450 Stancliff Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Chain of Custody Form

Page 1 of 1

COC ID: **24647**

11081012

PREMIER ENV: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3



ALS Project Manager:

| Customer Information | | Project Information | |
|----------------------|--|---------------------|---------------|
| Purchase Order | | Project Name | |
| Work Order | | Project Number | 205068 |
| Company Name | | Bill To Company | |
| Send Report To | | Invoice Attn | |
| Address | | Address | |
| | | | |
| City/State/Zip | | City/State/Zip | |
| Phone | | Phone | |
| Fax | | Fax | |
| e-Mail Address | | e-Mail Address | |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|--------------------|---------|-------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | MW 2 | 8-30-11 | 15:20 | GW | HCL | 3 | x | | | | | | | | | | |
| 2 | MW 3 | 8-30-11 | 15:25 | | | | | | | | | | | | | | |
| 3 | MW 4 | 8-30-11 | 15:30 | | | | | | | | | | | | | | |
| 4 | MW 5 | 8-30-11 | 15:35 | | | | | | | | | | | | | | |
| 5 | MW 6 | 8-30-11 | 15:40 | | | | | | | | | | | | | | |
| 6 | MW 7 | 8-30-11 | 15:45 | | | | | | | | | | | | | | |
| 7 | MW 8 | 8-30-11 | 15:50 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | | | |
|--|----------------|-----------------|---------------------------|---------------------------------------|--------------|-----------------------------------|--|
| Sampler(s) Please Print & Sign | | Shipment Method | | Required Turnaround Time: (Check Box) | | Results Due Date: | |
| <i>Matt Grubbs</i> <i>Shane Miller</i> | | <i>FedEx</i> | | | | | |
| Relinquished by: | Date: | Time: | Received by: | Notes: | | | |
| <i>Matt Grubbs</i> | <i>8-30-11</i> | <i>17:00</i> | <i>FedEx</i> | | | | |
| Relinquished by: | Date: | Time: | Received by (Laboratory): | Cooler ID | Cooler Temp. | QC Package: (Check One Box Below) | |
| | | | <i>8-31-11 0905</i> | <i>3881</i> | | | |
| Logged by (Laboratory): | Date: | Time: | Checked by (Laboratory): | | | | |
| | | | | | | | |
| Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035 | | | | | | | |

Note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.
2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.
3. The Chain of Custody is a legal document. All information must be completed accurately.

Copyright 2010 by ALS Environmental.

ALS Environmental

Sample Receipt Checklist

Client Name: **PREMIER ENV**

Date/Time Received: **31-Aug-11 09:05**

Work Order: **11081012**

Received by: **PMG**

Checklist completed by Raymond N Gamba
eSignature

31-Aug-11
Date

Reviewed by: Patricia L. Lynch
eSignature

03-Sep-11
Date

Matrices: Water

Carrier name: FedEx

| | | | |
|---|---|-----------------------------|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

Temperature(s)/Thermometer(s):

1.8c 002

Cooler(s)/Kit(s):

3881

Water - VOA vials have zero headspace?

Yes ☒ No ☐ No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐ No ☐ N/A ☒

pH adjusted?

Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes: Trip blank not on COC--logged in without analysis.

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:



10450 Standlift Rd., Suite 210
Houston, Texas 77099
Tel. +1 281 530 5656
Fax. +1 281 530 5887

Seal Broken By:

Date: 8.30.11 Time: 17130
Name: Math Green 655
Company: EarthCor

Date:

FedEx
 Tracking Number 876698579720

ider's
ne _____ Phone _____

Company

Address

Dept./Floor/Suite/Room

State ZIP

ur Internal Billing Reference



09-Dec-2011

Kathleen Buxton
EarthCon Consultants, Inc.
4800 Sugar Grove Blvd.
Suite 390
Houston, TX 77477

Tel: (281) 240-5200
Fax: (281) 240-5201

Re: Vac to Jal Mainline #3

Work Order: 1111902

Dear Kathleen,

ALS Environmental received 8 samples on 30-Nov-2011 09:35 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 18.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Electronically approved by: Mary K. Knowles

Patricia L. Lynch
Project Manager



Certificate No: TX: T104704231-11-5

ADDRESS 10450 Standitt Rd, Suite 210 Houston, Texas 77069-4338 | PHONE (281) 530-5656 | FAX (281) 530-5887
ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNERS

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
Work Order: 1111902

Work Order Sample Summary

| <u>Lab Samp ID</u> | <u>Client Sample ID</u> | <u>Matrix</u> | <u>Tag Number</u> | <u>Collection Date</u> | <u>Date Received</u> | <u>Hold</u> |
|--------------------|-------------------------|---------------|-------------------|------------------------|----------------------|--------------------------|
| 1111902-01 | MW-2 | Water | | 11/29/2011 12:45 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-02 | MW-3 | Water | | 11/29/2011 12:50 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-03 | MW-4 | Water | | 11/29/2011 12:55 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-04 | MW-5 | Water | | 11/29/2011 13:00 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-05 | MW-6 | Water | | 11/29/2011 13:15 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-06 | MW-7 | Water | | 11/29/2011 13:05 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-07 | MW-8 | Water | | 11/29/2011 13:10 | 11/30/2011 09:35 | <input type="checkbox"/> |
| 1111902-08 | Trip Blank - 110311-24 | Water | | 11/29/2011 | 11/30/2011 09:35 | <input type="checkbox"/> |

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-2

Lab ID: 1111902-01

Collection Date: 11/29/2011 12:45 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|---------------|------|-----------------|-------------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 09:54 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 09:54 PM |
| Ethylbenzene | 0.0015 | | 0.0010 | mg/L | 1 | 12/1/2011 09:54 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/1/2011 09:54 PM |
| Surr: 4-Bromofluorobenzene | 92.8 | | 77-129 | %REC | 1 | 12/1/2011 09:54 PM |
| Surr: Trifluorotoluene | 91.6 | | 75-130 | %REC | 1 | 12/1/2011 09:54 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-3

Lab ID: 1111902-02

Collection Date: 11/29/2011 12:50 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | 0.0041 | | 0.0010 | mg/L | 1 | 12/1/2011 10:11 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:11 PM |
| Ethylbenzene | 0.0079 | | 0.0010 | mg/L | 1 | 12/1/2011 10:11 PM |
| Xylenes, Total | 0.014 | | 0.0030 | mg/L | 1 | 12/1/2011 10:11 PM |
| Surr: 4-Bromofluorobenzene | 99.3 | | 77-129 | %REC | 1 | 12/1/2011 10:11 PM |
| Surr: Trifluorotoluene | 96.3 | | 75-130 | %REC | 1 | 12/1/2011 10:11 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-4

Lab ID: 1111902-03

Collection Date: 11/29/2011 12:55 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:28 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:28 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:28 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/1/2011 10:28 PM |
| Surr: 4-Bromofluorobenzene | 89.7 | | 77-129 | %REC | 1 | 12/1/2011 10:28 PM |
| Surr: Trifluorotoluene | 90.0 | | 75-130 | %REC | 1 | 12/1/2011 10:28 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Sample ID: MW-5

Collection Date: 11/29/2011 01:00 PM

Work Order: 1111902

Lab ID: 1111902-04

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:46 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:46 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 10:46 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/1/2011 10:46 PM |
| Surr: 4-Bromofluorobenzene | 88.9 | | 77-129 | %REC | 1 | 12/1/2011 10:46 PM |
| Surr: Trifluorotoluene | 89.9 | | 75-130 | %REC | 1 | 12/1/2011 10:46 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-6

Lab ID: 1111902-05

Collection Date: 11/29/2011 01:15 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:03 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:03 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:03 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/1/2011 11:03 PM |
| Surr: 4-Bromofluorobenzene | 90.1 | | 77-129 | %REC | 1 | 12/1/2011 11:03 PM |
| Surr: Trifluorotoluene | 88.7 | | 75-130 | %REC | 1 | 12/1/2011 11:03 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Sample ID: MW-7

Collection Date: 11/29/2011 01:05 PM

Work Order: 1111902

Lab ID: 1111902-06

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:20 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:20 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:20 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/1/2011 11:20 PM |
| Surr: 4-Bromofluorobenzene | 90.3 | | 77-129 | %REC | 1 | 12/1/2011 11:20 PM |
| Surr: Trifluorotoluene | 89.4 | | 75-130 | %REC | 1 | 12/1/2011 11:20 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Work Order: 1111902

Sample ID: MW-8

Lab ID: 1111902-07

Collection Date: 11/29/2011 01:10 PM

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|---------------------|
| BTEX | | | SW8021B | | | Analyst: SMA |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:37 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:37 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 12/1/2011 11:37 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/1/2011 11:37 PM |
| Surr: 4-Bromofluorobenzene | 88.4 | | 77-129 | %REC | 1 | 12/1/2011 11:37 PM |
| Surr: Trifluorotoluene | 89.5 | | 75-130 | %REC | 1 | 12/1/2011 11:37 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3

Sample ID: Trip Blank - 110311-24

Collection Date: 11/29/2011

Work Order: 1111902

Lab ID: 1111902-08

Matrix: WATER

| Analyses | Result | Qual | Report Limit | Units | Dilution Factor | Date Analyzed |
|----------------------------|--------|------|-----------------|-------|--------------------|--------------------|
| BTEX | | | SW8021B | | | Analyst: JFT |
| Benzene | ND | | 0.0010 | mg/L | 1 | 12/5/2011 12:58 PM |
| Toluene | ND | | 0.0010 | mg/L | 1 | 12/5/2011 12:58 PM |
| Ethylbenzene | ND | | 0.0010 | mg/L | 1 | 12/5/2011 12:58 PM |
| Xylenes, Total | ND | | 0.0030 | mg/L | 1 | 12/5/2011 12:58 PM |
| Surr: 4-Bromofluorobenzene | 94.3 | | 77-129 | %REC | 1 | 12/5/2011 12:58 PM |
| Surr: Trifluorotoluene | 84.9 | | 75-130 | %REC | 1 | 12/5/2011 12:58 PM |

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Work Order: 1111902
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120084** Instrument ID **BTEX1** Method: **SW8021B**

MBLK Sample ID: **BBLKW2-111201-R120084** Units: **µg/L** Analysis Date: **12/1/2011 09:36 PM**

Client ID: Run ID: **BTEX1_111201C** SeqNo: **2616312** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 3.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 26.42 | 1.0 | 30 | 0 | 88.1 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 26.81 | 1.0 | 30 | 0 | 89.4 | 75-130 | 0 | | | |

LCS Sample ID: **BLCW2-111201-R120084** Units: **µg/L** Analysis Date: **12/1/2011 08:45 PM**

Client ID: Run ID: **BTEX1_111201C** SeqNo: **2616309** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Benzene | 22.33 | 1.0 | 20 | 0 | 112 | 77-126 | 0 | | | |
| Toluene | 22.25 | 1.0 | 20 | 0 | 111 | 80-124 | 0 | | | |
| Ethylbenzene | 22.14 | 1.0 | 20 | 0 | 111 | 76-125 | 0 | | | |
| Xylenes, Total | 66.09 | 3.0 | 60 | 0 | 110 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 27.48 | 1.0 | 30 | 0 | 91.6 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 27.87 | 1.0 | 30 | 0 | 92.9 | 75-130 | 0 | | | |

LCSD Sample ID: **BLCSDW2-111201-R120084** Units: **µg/L** Analysis Date: **12/1/2011 09:02 PM**

Client ID: Run ID: **BTEX1_111201C** SeqNo: **2616310** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|-------|-----------|------|
| Benzene | 21.99 | 1.0 | 20 | 0 | 110 | 77-126 | 22.33 | 1.51 | 20 | |
| Toluene | 21.9 | 1.0 | 20 | 0 | 110 | 80-124 | 22.25 | 1.59 | 20 | |
| Ethylbenzene | 21.73 | 1.0 | 20 | 0 | 109 | 76-125 | 22.14 | 1.87 | 20 | |
| Xylenes, Total | 65.02 | 3.0 | 60 | 0 | 108 | 79-124 | 66.09 | 1.64 | 20 | |
| Surr: 4-Bromofluorobenzene | 27.7 | 1.0 | 30 | 0 | 92.3 | 77-129 | 27.48 | 0.765 | 20 | |
| Surr: Trifluorotoluene | 27.97 | 1.0 | 30 | 0 | 93.2 | 75-130 | 27.87 | 0.358 | 20 | |

MS Sample ID: **1111901-07AMS** Units: **µg/L** Analysis Date: **12/2/2011 04:50 AM**

Client ID: Run ID: **BTEX1_111201C** SeqNo: **2616335** Prep Date: DF: **1**

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|------|-----------|------|
| Benzene | 22.93 | 1.0 | 20 | 0 | 115 | 77-126 | 0 | | | |
| Toluene | 22.94 | 1.0 | 20 | 0 | 115 | 80-124 | 0 | | | |
| Ethylbenzene | 22.61 | 1.0 | 20 | 0 | 113 | 76-125 | 0 | | | |
| Xylenes, Total | 67.06 | 3.0 | 60 | 0 | 112 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 27.2 | 1.0 | 30 | 0 | 90.7 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 27.23 | 1.0 | 30 | 0 | 90.8 | 75-130 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Work Order: 1111902
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120084** Instrument ID **BTEX1** Method: **SW8021B**

| MSD | | Sample ID: 1111901-07AMSD | | Units: µg/L | | Analysis Date: 12/2/2011 05:07 AM | | | | |
|----------------------------|--------|----------------------------------|---------|-----------------------|------|--|---------------|--------------|-----------|------|
| Client ID: | | Run ID: BTEX1_111201C | | SeqNo: 2616336 | | Prep Date: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 23.06 | 1.0 | 20 | 0 | 115 | 77-126 | 22.93 | 0.561 | 20 | |
| Toluene | 23.04 | 1.0 | 20 | 0 | 115 | 80-124 | 22.94 | 0.439 | 20 | |
| Ethylbenzene | 22.73 | 1.0 | 20 | 0 | 114 | 76-125 | 22.61 | 0.508 | 20 | |
| Xylenes, Total | 67.36 | 3.0 | 60 | 0 | 112 | 79-124 | 67.06 | 0.454 | 20 | |
| Surr: 4-Bromofluorobenzene | 27.7 | 1.0 | 30 | 0 | 92.3 | 77-129 | 27.2 | 1.81 | 20 | |
| Surr: Trifluorotoluene | 27.57 | 1.0 | 30 | 0 | 91.9 | 75-130 | 27.23 | 1.23 | 20 | |

The following samples were analyzed in this batch:

| | | |
|-------------|-------------|-------------|
| 1111902-01A | 1111902-02A | 1111902-03A |
| 1111902-04A | 1111902-05A | 1111902-06A |
| 1111902-07A | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
 Work Order: 1111902
 Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120134** Instrument ID **BTEX1** Method: **SW8021B**

| | | | | | | | | | | |
|---------------------------------------|--------|-----------------------|---------|----------------|------|---------------|-----------------------------------|-------|-----------|------|
| MBLK Sample ID: BBLKW1-111205-R120134 | | | | Units: µg/L | | | Analysis Date: 12/5/2011 11:27 AM | | | |
| Client ID: | | Run ID: BTEX1_111205A | | SeqNo: 2617385 | | Prep Date: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | ND | 1.0 | | | | | | | | |
| Toluene | ND | 1.0 | | | | | | | | |
| Ethylbenzene | ND | 1.0 | | | | | | | | |
| Xylenes, Total | ND | 3.0 | | | | | | | | |
| Surr: 4-Bromofluorobenzene | 28.16 | 1.0 | 30 | 0 | 93.9 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 25.62 | 1.0 | 30 | 0 | 85.4 | 75-130 | 0 | | | |

| | | | | | | | | | | |
|--------------------------------------|--------|-----------------------|---------|----------------|------|---------------|-----------------------------------|------|-----------|------|
| LCS Sample ID: BLCSW1-111205-R120134 | | | | Units: µg/L | | | Analysis Date: 12/5/2011 10:34 AM | | | |
| Client ID: | | Run ID: BTEX1_111205A | | SeqNo: 2617383 | | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 20.94 | 1.0 | 20 | 0 | 105 | 77-126 | 0 | | | |
| Toluene | 20.57 | 1.0 | 20 | 0 | 103 | 80-124 | 0 | | | |
| Ethylbenzene | 20.75 | 1.0 | 20 | 0 | 104 | 76-125 | 0 | | | |
| Xylenes, Total | 63.5 | 3.0 | 60 | 0 | 106 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 28.33 | 1.0 | 30 | 0 | 94.4 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 25.83 | 1.0 | 30 | 0 | 86.1 | 75-130 | 0 | | | |

| | | | | | | | | | | | |
|--|--------|-----|---------|-----------------------|------|----------------|-----------------------------------|------------|-----------|-------|--|
| LCSD Sample ID: BLCSDW1-111205-R120134 | | | | Units: µg/L | | | Analysis Date: 12/5/2011 10:52 AM | | | | |
| Client ID: | | | | Run ID: BTEX1_111205A | | SeqNo: 2617384 | | Prep Date: | | DF: 1 | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual | |
| Benzene | 21.45 | 1.0 | 20 | 0 | 107 | 77-126 | 20.94 | 2.4 | 20 | | |
| Toluene | 21.12 | 1.0 | 20 | 0 | 106 | 80-124 | 20.57 | 2.64 | 20 | | |
| Ethylbenzene | 21.34 | 1.0 | 20 | 0 | 107 | 76-125 | 20.75 | 2.79 | 20 | | |
| Xylenes, Total | 65.12 | 3.0 | 60 | 0 | 109 | 79-124 | 63.5 | 2.52 | 20 | | |
| Surr: 4-Bromofluorobenzene | 28.79 | 1.0 | 30 | 0 | 96 | 77-129 | 28.33 | 1.61 | 20 | | |
| Surr: Trifluorotoluene | 25.94 | 1.0 | 30 | 0 | 86.5 | 75-130 | 25.83 | 0.445 | 20 | | |

| | | | | | | | | | | |
|-----------------------------|--------|-----------------------|---------|----------------|------|---------------|-----------------------------------|-------|-----------|------|
| MS Sample ID: 1111900-07AMS | | | | Units: µg/L | | | Analysis Date: 12/5/2011 12:05 PM | | | |
| Client ID: | | Run ID: BTEX1_111205A | | SeqNo: 2617387 | | Prep Date: | | DF: 1 | | |
| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
| Benzene | 19.7 | 1.0 | 20 | 0 | 98.5 | 77-126 | 0 | | | |
| Toluene | 19.18 | 1.0 | 20 | 0 | 95.9 | 80-124 | 0 | | | |
| Ethylbenzene | 18.83 | 1.0 | 20 | 0 | 94.2 | 76-125 | 0 | | | |
| Xylenes, Total | 57.7 | 3.0 | 60 | 0 | 96.2 | 79-124 | 0 | | | |
| Surr: 4-Bromofluorobenzene | 28.73 | 1.0 | 30 | 0 | 95.8 | 77-129 | 0 | | | |
| Surr: Trifluorotoluene | 26.36 | 1.0 | 30 | 0 | 87.9 | 75-130 | 0 | | | |

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: EarthCon Consultants, Inc.
Work Order: 1111902
Project: Vac to Jal Mainline #3

QC BATCH REPORT

Batch ID: **R120134** Instrument ID **BTEX1** Method: **SW8021B**

MSD Sample ID: **1111900-07AMSD** Units: **µg/L** Analysis Date: **12/5/2011 12:23 PM**

Client ID: Run ID: **BTEX1_111205A** SeqNo: **2617388** Prep Date: DF: 1

| Analyte | Result | PQL | SPK Val | SPK Ref Value | %REC | Control Limit | RPD Ref Value | %RPD | RPD Limit | Qual |
|----------------------------|--------|-----|---------|---------------|------|---------------|---------------|-------|-----------|------|
| Benzene | 21.27 | 1.0 | 20 | 0 | 106 | 77-126 | 19.7 | 7.67 | 20 | |
| Toluene | 20.73 | 1.0 | 20 | 0 | 104 | 80-124 | 19.18 | 7.76 | 20 | |
| Ethylbenzene | 20.53 | 1.0 | 20 | 0 | 103 | 76-125 | 18.83 | 8.6 | 20 | |
| Xylenes, Total | 62.86 | 3.0 | 60 | 0 | 105 | 79-124 | 57.7 | 8.57 | 20 | |
| Surr: 4-Bromofluorobenzene | 28.87 | 1.0 | 30 | 0 | 96.2 | 77-129 | 28.73 | 0.504 | 20 | |
| Surr: Trifluorotoluene | 26.29 | 1.0 | 30 | 0 | 87.6 | 75-130 | 26.36 | 0.253 | 20 | |

The following samples were analyzed in this batch:

1111902-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 09-Dec-11

Client: EarthCon Consultants, Inc.
Project: Vac to Jal Mainline #3
WorkOrder: 1111902

**QUALIFIERS,
ACRONYMS, UNITS**

| <u>Qualifier</u> | <u>Description</u> |
|------------------|---|
| * | Value exceeds Regulatory Limit |
| a | Not accredited |
| B | Analyte detected in the associated Method Blank above the Reporting Limit |
| E | Value above quantitation range |
| H | Analyzed outside of Holding Time |
| J | Analyte detected below quantitation limit |
| M | Manually integrated, see raw data for justification |
| n | Not offered for accreditation |
| ND | Not Detected at the Reporting Limit |
| O | Sample amount is > 4 times amount spiked |
| P | Dual Column results percent difference > 40% |
| R | RPD above laboratory control limit |
| S | Spike Recovery outside laboratory control limits |
| U | Analyzed but not detected above the MDL |

| <u>Acronym</u> | <u>Description</u> |
|----------------|-------------------------------------|
| DCS | Detectability Check Study |
| DUP | Method Duplicate |
| LCS | Laboratory Control Sample |
| LCSD | Laboratory Control Sample Duplicate |
| MBLK | Method Blank |
| MDL | Method Detection Limit |
| MQL | Method Quantitation Limit |
| MS | Matrix Spike |
| MSD | Matrix Spike Duplicate |
| PDS | Post Digestion Spike |
| PQL | Practical Quantitation Limit |
| SD | Serial Dilution |
| SDL | Sample Detection Limit |
| TRRP | Texas Risk Reduction Program |

| <u>Units Reported</u> | <u>Description</u> |
|-----------------------|----------------------|
| mg/L | Milligrams per Liter |



Chain of Custody Form

Page 1 of 1

COC ID: 48558

1111902

PREMIER ENV: EarthCon Consultants, Inc.

Project: Vac to Jal Mainline #3



ALS Project Manager:

| Customer Information | | Project Information | | |
|----------------------|-------------------------------------|---------------------|--|---------------|
| Purchase Order | | Project Name | Vac to Jal Mainline #3 | A BTEX (8021) |
| Work Order | | Project Number | 205068 | B |
| Company Name | Earth Consulting Group, Inc. | Bill-To Company | Plains All America, LP | C |
| Send Report To | Kathleen Buxton | Invoice Attn | | D |
| Address | 4800 Sugar Grove Blvd. Suite 390 | Address | c/o ENV. Accounts Payable P.O. Box 4648 | E |
| City/State/Zip | Houston, TX 77477 | City/State/Zip | Houston, TX 77210-4648 | F |
| Phone | (281) 240-5200 | Phone | (713) 646-4810 | G |
| Fax | (281) 240-5201 | Fax | (713) 646-4199 | H |
| E-Mail Address | | E-Mail Address | | I |

| No. | Sample Description | Date | Time | Matrix | Pres. | # Bottles | A | B | C | D | E | F | G | H | I | J | Hold |
|-----|--------------------|----------|-------|--------|-------|-----------|---|---|---|---|---|---|---|---|---|---|------|
| 1 | MW-2 | 11-29-11 | 12:45 | GW | HCL | 3 | | | | | | | | | | | |
| 2 | MW-3 | | 12:50 | | | | | | | | | | | | | | |
| 3 | MW-4 | | 12:55 | | | | | | | | | | | | | | |
| 4 | MW-5 | | 13:00 | | | | | | | | | | | | | | |
| 5 | MW-6 | | 13:15 | | | | | | | | | | | | | | |
| 6 | MW-7 | | 13:05 | | | | | | | | | | | | | | |
| 7 | MW-8 | | 13:10 | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |

| | | | | | | | | | |
|--|--|---------------------------------|----------------|---|--|---|--|-------------------|--|
| Sampler(s) Please Print & Sign <i>Matt Grubbs</i> | | Shipment Method <i>FedEx</i> | | Required Turnaround Time: (Check Box) <input type="checkbox"/> Std. 10 WK Days <input checked="" type="checkbox"/> 5 WK Days <input type="checkbox"/> Other <input type="checkbox"/> 2 WK Days <input type="checkbox"/> 24 Hour | | | | Results Due Date: | |
| Relinquished by: <i>Matt Grubbs</i> | | Date: 11-29-11 | Time: 17:30 | Received by: <i>FedEx</i> | | Notes: 5 Day TAT. | | | |
| Relinquished by: | | Date: | Time: | Received by (Laboratory): <i>11-30-11 0935</i> | | Cooler ID: 3531 | | Cooler Temp. | |
| Logged by (Laboratory): | | Date: | Time: | Checked by (Laboratory): | | QC Package: (Check One Box Below) <input checked="" type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Check List <input type="checkbox"/> Level III Std QC Raw Data <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other / EDD | | | |
| Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035 | | | | | | | | | |

ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.

2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.

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ALS Environmental

Sample Receipt Checklist

Client Name: **PREMIER ENV**

Date/Time Received: **30-Nov-11 09:35**

Work Order: **1111902**

Received by: **PMG**

Checklist completed by Parash M. Giza
eSignature

30-Nov-11
Date

Reviewed by: Patricia L. Lynch
eSignature

02-Dec-11
Date

Matrices: **Water**

Carrier name: **ALS.HS**

| | | | |
|---|---|-----------------------------|---|
| Shipping container/cooler in good condition? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on shipping container/cooler? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | Not Present <input type="checkbox"/> |
| Custody seals intact on sample bottles? | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Not Present <input checked="" type="checkbox"/> |
| Chain of custody present? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody signed when relinquished and received? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Chain of custody agrees with sample labels? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Samples in proper container/bottle? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sample containers intact? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Sufficient sample volume for indicated test? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| All samples received within holding time? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |
| Container/Temp Blank temperature in compliance? | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | |

Temperature(s)/Thermometer(s):

2.1 002

Cooler(s)/Kit(s):

3531

Water - VOA vials have zero headspace?

Yes ☒ No ☐ No VOA vials submitted ☐

Water - pH acceptable upon receipt?

Yes ☐ No ☐ N/A ☒

pH adjusted?

Yes ☐ No ☐ N/A ☒

pH adjusted by:

Login Notes: Received trip blank; not on COC. Assigned BTEX.

Client Contacted:

Date Contacted:


Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

| | | | |
|--|--|---|------------------------------------|
|  ALS Environmental 10450 Stancliff Rd., Suite 210 Houston, Texas 77099 Tel. +1 281 530 5656 Fax. +1 281 530 5887 | CUSTODY SEAL | | Seal Broken By: <i>[Signature]</i> |
| | Date: <i>11-29-11</i> Name: <i>Matt Grubbs</i> Company: <i>Earth Con</i> | Time: <i>15:30 17:30</i> Date: <i>11-30-11</i> | |

te *11-20-11* FedEx Tracking Number *898941675114*

nder's *Matt Grubbs* Phone *281 230-2131*

Company *Earth Con*

Address *1400 Industrial Loop*

State *TX* ZIP *77061*

ur Internal Billing Reference *207032*